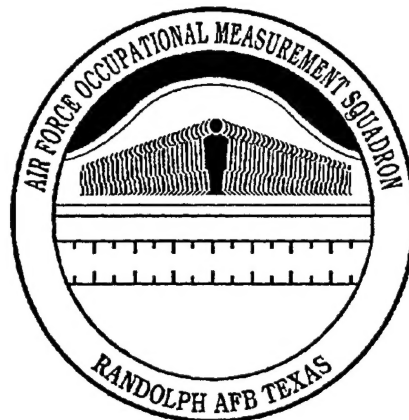




**UNITED STATES  
AIR FORCE**



# ***OCCUPATIONAL SURVEY REPORT***

**COMMUNICATIONS CABLE SYSTEMS**

**AFSC 2E6X2**

**AFPT 90-2E6-039**

**JUNE 1996**

**19960801 061**

**OCCUPATIONAL ANALYSIS PROGRAM  
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON  
AIR EDUCATION and TRAINING COMMAND  
1550 5th STREET EAST  
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AFOMS/OMDQ	1			
AFOMS/OMYXL	10		5	10
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HQ AMC/DPAET	1			
HQ PACAF/DPAET	3		3	
HQ USAF/LGMM	1		1	
HQ USAFE/DPATTJ	3		3	
HQ USMC/STANDARDS BRANCH	1			
NAVMAC	1			
333 TRS/Q FLIGHT	1		1	
782 TRG/TTS (826 G AVENUE, STE 4, SHEPPARD AFB TX 76311-2857)	1		1	
3674 TRS/TTKMS (511 9TH AVENUE, STE 1, SHEPPARD AFB TX 76311-2338)	3	1	4	1

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## PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Communications Cable Systems career ladder, Air Force Specialty Code (AFSC) 2E6X2 (formerly AFSC 361X1). Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products upon which this report is based are available for use by operations and training officials.

The survey instrument was developed by 1Lt Shannen M. Karpel, Inventory Development Specialist, with computer programming support furnished by Mrs. Jeanie C. Guesman. Mr. Richard G. Ramos provided administrative support. 2Lt Sandra Acosta, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Mr. James B. Keeth, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to AFOMS, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph Air Force Base Texas 78150-4449 (DSN 487-6623).

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## SUMMARY OF RESULTS

1. Survey Coverage: The Communications Cable Systems career ladder was surveyed to obtain current task and equipment data for use in evaluating current training programs and to evaluate changes in the career ladder since the last Occupational Survey Report (OSR) was published in 1991. This report is based on data from 718 respondents, constituting 66 percent of all assigned AFSC 2E6X2 (formerly 361X1) personnel. All major using commands are well represented in the survey sample.
2. Specialty Jobs: One cluster and three independent jobs (IJs) were identified in the sample. All three of the independent jobs were directly involved in performing the technical duties and tasks pertaining to Communications Cable Systems. The remaining cluster reflected a combination of supervisory and management task performance and training activities.
3. Career Ladder Progression: Personnel at the 3- and 5-skill levels perform many tasks in common, and both groups spend the vast majority of their relative job time in the technical aspects of the career ladder. Although 7-skill level members primarily perform a mixture of supervisory and administrative tasks, a considerable amount of time is apportioned for routine day-to-day communications cable systems tasks.
4. AFMAN 36-2108 Specialty Descriptions: All descriptions accurately depict the nature of the respective jobs.
5. Training Analysis: The Course Training Standard (CTS) for this career ladder is supported by OSR data. However, a lack of 3-skill level course proficiency codes for this career ladder does not allow for a thorough analysis to be accomplished. Therefore, analysis of the CTS is solely based on job inventory tasks matched to CTS elements using specific criterion.
6. Implications: The Communications Cable Systems career ladder has seen little change in career structure since the previous survey in 1991. The primary technical orientation of the career ladder lies in the Cable Installation and Maintenance Job. The tasks performed by members of this group have remained constant; they install and maintain communication cables using related cable equipment. Personnel in the Cable Installation and Maintenance Job compose the bulk of the career ladder and perform a broad scope of tasks. Overall, personnel in the Communications Cable Systems specialty appear fairly satisfied with their jobs, with job satisfaction indicators higher than those in the previous survey.

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**OCCUPATIONAL SURVEY REPORT (OSR)  
COMMUNICATIONS CABLE SYSTEMS CAREER LADDER  
(AFSC 2E6X2)**

**INTRODUCTION**

This is a report of an occupational survey of the Communications Cable Systems career ladder completed by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. This survey was completed as part of the 5-year production cycle of career field analyses. On 31 October 1993, this AFSC was directly converted to AFSC 2E6X2 (formerly AFSC 361X1) to conform to the new enlisted specialty coding nomenclature. The last survey report pertaining to this career ladder was published in January 1991.

Background

The AFSC 2E6X2 career ladder had its beginning in July 1954 as the AFSC 361X1 Cable Splicing specialty. In March 1965, the AFSC 361X1 career ladder was split and AFSCs 361X3, Missile Systems Cable Splicer, and 361X4, Cable Splicers, were created. Those AFSCs remained unchanged until April 1977, when they were redesignated as AFSCs 361X1 and 361X2, respectively. In April 1978, the two AFSCs were again merged to create the AFSC 361X1, Cable Splicing Project/Maintenance Action, career ladder. On 31 October 1993, AFSC 361X1 was directly converted to AFSC 2E6X2, Communications Cable Systems, following the AFSC restructuring initiative.

As described in the AFMAN 36-2108 *Specialty Description*, dated October 1993, and in the Career Field Education and Training Plan (CFETP) for AFSC 2E6X2, dated October 1994, personnel in Communications Cable Systems supervise and plan installation and maintenance of underground, buried, and aerial copper core and fiber-optic cables supporting systems for command, control, communications, and computers. They also monitor and analyze performance of these cable systems.

Entry into the career ladder is from Basic Military Training School through an 11-week, 3-day formal training course at Sheppard AFB TX. Resident ABR training in the knowledge and skills required of a communications/missile cable splicer includes: pole climbing; splicing and sealing of hardened missile and communications cables; aerial, underground, and buried cable splicing techniques; cable maps and diagrams; use of test equipment; cable conductor identification and detection and location of cable faults; function, installation, operation, and maintenance of pressurized cable systems; cable plant performance testing; fiber optic splicing

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procedures; pole line construction; installation and maintenance of aerial, buried, and underground cable systems; and Hardened Intersite Cable Systems (HICS) pressure monitoring system. Entry into the career ladder currently requires an Armed Services Vocational Aptitude Battery Mechanical score of 51.

## **SURVEY METHODOLOGY**

### Inventory Development

Data for this occupational survey were collected using USAF Job Inventory (JI) Air Force Personnel Test (AFPT) 90-2E6-039, dated October 1994. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, tasks from the previous survey instrument, and data from the last OSR. The preliminary task list was refined and validated through personal interviews with 17 subject-matter experts (SME) (selected to cover a variety of major commands (MAJCOMs)) at the following bases:

<u>BASE</u>	<u>REASON FOR VISIT</u>
Sheppard AFB TX	Resident technical training school location
Grand Forks AFB ND	Hardened Intersite Cable System (HICS) location
Kelly AFB TX	Major AFSC 2E6X2 location; Engineering and Installation (EI) unit location; High fiber-optics experience

The resulting JI contained a comprehensive listing of 635 tasks grouped under 15 duty headings and a background section requesting such information as grade, duty title, functional area, types of equipment operated, and duty schedule.

### Survey Administration

From April through August 1995, Survey Control Monitors at base training offices worldwide administered the inventory to all eligible AFSC 2E6X2 personnel. Members eligible for this survey consisted of the total assigned 3-, 5-, and 7-skill levels, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time the JIs were administered to the field; and (4) personnel in their job less than 6 weeks. Job incumbents were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center.



Respondents were asked to complete an identification and biographical information section first and go through the booklet and check each task performed in their current job. After checking all tasks performed, respondents then rated each of these tasks on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount time spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of their time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

### Survey Sample

Personnel were selected to participate in this survey so as to ensure an accurate representation across MAJCOMs and military paygrade groups. All eligible AFSC 2E6X2 personnel were mailed survey booklets. Table 1 reflects the MAJCOM distribution of assigned AFSC 2E6X2 personnel (as of April 1995). The 718 respondents in the final sample represent 66 percent of all assigned AFSC 2E6X2 personnel. Table 2 reflects the paygrade distribution for these personnel. As reflected in these tables, the survey sample is an excellent representation of the career ladder population.

### Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. While most participants in the survey process completed a USAF JI, selected senior AFSC 2E6X2 personnel were also asked to complete booklets providing judgments on task training emphasis (TE) or task difficulty (TD). The information gained from task factor data is used in various analyses and is a valuable part of the training decision process.

Training Emphasis (TE). TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 41 senior NCOs from the career ladder who completed a TE booklet were asked to select tasks they felt required some structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided at resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method. There was strong agreement among the 41 raters as to which tasks require some form of structured training and which do not. The average TE rating was 3.73, with a standard deviation of 1.83. Any task with a TE rating of 5.56 or above is considered to have high training emphasis.

TABLE 1

## MAJCOM DISTRIBUTION OF AFSC 2E6X2 PERSONNEL

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
AFMC	55	44
AFSPACECOM	10	13
ACC	11	13
PACAF	8	11
USAFE	6	7
AMC	5	6
AETC	4	5
AFSOC	1	1
ELM (OTHER)	***	0

TOTAL ASSIGNED\* = 1,092

TOTAL SURVEYED\*\* = 1,011

TOTAL IN SURVEY SAMPLE = 718

PERCENT OF ASSIGNED IN SAMPLE = 66%

PERCENT OF SURVEYED IN SAMPLE = 71%

\* Assigned strength as of April 1995

\*\* Excludes personnel in PCS, student, or hospital status, or less than 6 weeks on the job

\*\*\* Less than 0.5 percent

TABLE 2

## PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
E-1 to E-3	29	31
E-4	25	24
E-5	25	24
E-6	13	13
E-7	8	8

\* Assigned strength as of April 1995

NOTE: Columns may not add to 100 percent due to rounding

Task Difficulty (TD). TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 35 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (i.e., extremely low to extremely high). Interrater reliability was excellent, indicating very strong agreement among raters. Ratings were standardized so tasks have an average difficulty of 5.00, with a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting entry-level jobs.

### **SPECIALTY JOBS** (Career Ladder Structure)

The occupational analysis process begins with an examination of the career ladder structure. The structure of jobs within the Communications Cable Systems career ladder was examined on the basis of similarity of tasks performed and the relative percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

The first step in the analysis process is to identify the structure of the career ladder in terms of the jobs performed by respondents. A Comprehensive Occupational Data Analysis Program (CODAP) assists by creating an individual job description for each respondent based on the tasks performed and the relative amount of time spent on tasks. The CODAP automated job clustering program then compares all the individual job descriptions, locates the two descriptions with the most similar tasks and time spent ratings, and combines them to form a composite job description. In successive stages, new members are added to this initial group, or new groups are formed based on the similarity of tasks and time spent ratings. The basic group used in this hierarchical clustering process is the Job. When two or more jobs have a substantial degree of similarity in tasks performed and time spent on tasks, they are grouped together and identified as a Cluster. The structure of the career ladder is then defined in terms of jobs and clusters of jobs. The resulting job structure information can be used to evaluate the accuracy of career ladder documents (i.e., AFMAN 36-2108 *Specialty Descriptions*, the CFETP, and STSs, as well as to gain a better understanding of current utilization patterns. The above terminology will be used in the discussion of the AFSC 2E6X2 career ladder structure.

### Overview of Specialty Jobs

The analysis procedure described above identified three jobs and one cluster within the survey sample. The division of jobs performed by AFSC 2E6X2 personnel is illustrated in Figure 1, and a listing of those jobs is provided below. The stage (ST) number shown beside each title is a reference to computer-printed information; the number of personnel in each stage (N) is also shown.

- I. CABLE INSTALLATION AND MAINTENANCE JOB (ST029, N=523)
- II. HARDENED INTERSITE CABLE SYSTEMS (HICS) INSTALLATION AND MAINTENANCE JOB (ST053, N=33)
- III. CABLE SUPPLY JOB (ST155, N=5)
- IV. SUPERVISORY AND MANAGEMENT CLUSTER (ST014, N=96)
  - A. Quality Assurance Job (ST088)
  - B. HICS Cable Affairs Job (ST140)
  - C. Maintenance Control Job (ST068)
  - D. Quality Control Job (ST006)
  - E. Engineering and Installation (EI) Team Chief Job (ST257)
  - F. First-Line Supervisor Job (ST173)
  - G. Training Management Job (ST096)
  - H. Maintenance Superintendent Job (ST074)

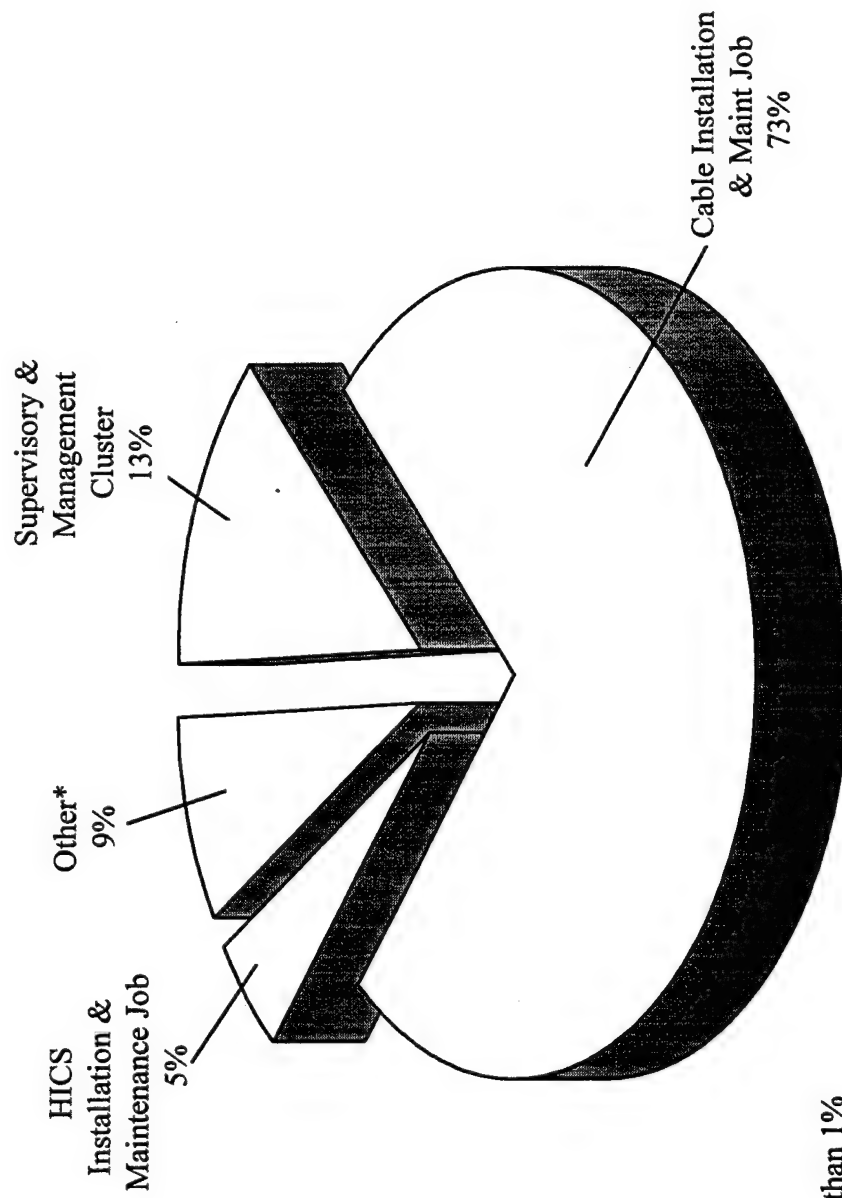
The respondents forming these jobs account for 92 percent of the survey sample. The remaining 8 percent were performing tasks or series of tasks which did not group with any of the defined jobs. Job titles given by respondents which were representative of these personnel include Contract Monitor, LAN Technician, and Telephone Maintenance.

### Group Descriptions

The following paragraphs contain brief descriptions of the jobs and cluster identified through the career ladder structure analysis. Table 3 presents the relative time spent on duties by members of these specialty jobs. Selected background data for these jobs are provided in Table 4. Representative tasks for all the groups are contained in Appendix A.

Another way to illustrate the content of jobs is by summarizing tasks performed by incumbents across the career ladder. CODAP has a process of identifying groups of related tasks and grouping them together to form task modules (TMs). The basis for identifying these related tasks is called coperformance. Coperformance assumes that if incumbents perform Task A and

# COMMUNICATIONS CABLE SYSTEMS SPECIALTY JOBS (N=718)



\* Supply Job-less than 1%  
Not grouped-9%

FIGURE 1

TABLE 3

## RELATIVE PERCENT TIME SPENT PERFORMING DUTIES BY SPECIALTY JOBS

DUTIES	CABLE INSTAL/MAINT JOB (N=523)	HICS INSTAL/MAINT JOB (N=33)	CABLE SUPPLY JOB (N=5)
A ORGANIZING AND PLANNING	2	2	12
B DIRECTING AND IMPLEMENTING	2	4	9
C INSPECTING AND EVALUATING	2	3	11
D TRAINING	2	3	1
E PERFORMING TEAM CHIEF FUNCTIONS	*	*	*
F PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	5	5	54
G PERFORMING GENERAL PREPARATION AND MAINTENANCE FUNCTIONS	28	17	6
H INSTALLING GENERAL COMMUNICATIONS SYSTEMS CABLES AND ASSOCIATED EQUIPMENT	12	2	-
I INSPECTING CABLES AND ASSOCIATED EQUIPMENT	6	9	4
J PERFORMING CABLE TESTS AND RELATED FUNCTIONS	12	4	*
K MAINTAINING AND SPLICING GENERAL CABLE SYSTEMS	9	2	-
L SEALING SPLICES	6	1	-
M PRESSURIZING AND MAINTAINING CABLE PRESSURE SYSTEMS	3	12	-
N INSTALLING AND MAINTAINING HARDENED INTERSITE CABLE SYSTEMS (HICS)	*	36	-
O INSTALLING AND MAINTAINING FIBER-OPTIC CABLE SYSTEMS	10	0	2

\* Denotes less than 1 percent

- Denotes duty not performed

NOTE: Columns may not add to 100 percent due to rounding

TABLE 3 (CONTINUED)

## RELATIVE PERCENT TIME SPENT PERFORMING DUTIES BY SPECIALTY JOBS

DUTIES	QUALITY ASSURANCE JOB (N=14)	HICS CABLE AFFAIRS JOB (N=5)	MAINT CONTROL JOB (N=6)	QUALITY CONTROL JOB (N=6)
A ORGANIZING AND PLANNING	11	10	33	10
B DIRECTING AND IMPLEMENTING	7	8	12	15
C INSPECTING AND EVALUATING	12	12	14	28
D TRAINING	1	8	1	9
E PERFORMING TEAM CHIEF FUNCTIONS	7	2	6	*
F PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	21	40	29	6
G PERFORMING GENERAL PREPARATION AND MAINTENANCE FUNCTIONS	4	3	3	1
H INSTALLING GENERAL COMMUNICATIONS SYSTEMS CABLES AND ASSOCIATED EQUIPMENT	-	1	-	-
I INSPECTING CABLES AND ASSOCIATED EQUIPMENT	36	8	2	24
J PERFORMING CABLE TESTS AND RELATED FUNCTIONS	-	3	-	-
K MAINTAINING AND SPLICING GENERAL CABLE SYSTEMS	-	-	-	-
L SEALING SPLICES	-	-	-	-
M PRESSURIZING AND MAINTAINING CABLE PRESSURE SYSTEMS	-	-	-	2
N INSTALLING AND MAINTAINING HARDENED INTERSITE CABLE SYSTEMS (HICS)	-	3	-	4
O INSTALLING AND MAINTAINING FIBER-OPTIC CABLE SYSTEMS	1	-	-	-

\* Denotes less than 1 percent

- Denotes duty not performed

NOTE: Columns may not add to 100 percent due to rounding



TABLE 3 (CONTINUED)

## RELATIVE PERCENT TIME SPENT PERFORMING DUTIES BY SPECIALTY JOBS

DUTIES	EI TEAM CHIEF JOB (N=6)	FIRST-LINE SUPERVISOR JOB (N=30)	TRAINING MANAGEMENT JOB (N=7)	MAINT SUPRNTNDNT JOB (N=11)
A ORGANIZING AND PLANNING	16	25	11	22
B DIRECTING AND IMPLEMENTING	14	19	12	22
C INSPECTING AND EVALUATING	8	24	12	41
D TRAINING	6	10	43	3
E PERFORMING TEAM CHIEF FUNCTIONS	8	2	*	-
F PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	21	11	9	1
G PERFORMING GENERAL PREPARATION AND MAINTENANCE FUNCTIONS	8	2	3	7
H INSTALLING GENERAL COMMUNICATIONS SYSTEMS CABLES AND ASSOCIATED EQUIPMENT	1	*	-	-
I INSPECTING CABLES AND ASSOCIATED EQUIPMENT	9	3	6	1
J PERFORMING CABLE TESTS AND RELATED FUNCTIONS	2	*	-	-
K MAINTAINING AND SPLICING GENERAL CABLE SYSTEMS	*	*	-	-
L SEALING SPLICES	*	*	-	-
M PRESSURIZING AND MAINTAINING CABLE PRESSURE SYSTEMS	*	*	-	-
N INSTALLING AND MAINTAINING HARDENED INTERSITE CABLE SYSTEMS (HICS)	-	*	-	3
O INSTALLING AND MAINTAINING FIBER-OPTIC CABLE SYSTEMS	1	2	3	-

\* Denotes less than 1 percent

- Denotes duty not performed

NOTE: Columns may not add to 100 percent due to rounding

TABLE 4

## SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	CABLE INSTL/MNT JOB	HICS INSTL/MNT JOB	CABLE SUPPLY JOB	QUALITY ASSURANCE JOB	HICS CABLE AFFAIRS JOB
NUMBER IN GROUP	523	33	5	14	5
PERCENT OF SAMPLE	73%	5%	*	15%	5%
PERCENT IN CONUS	80%	100%	60%	64%	100%
DAFSC DISTRIBUTION:					
2E632	43%	24%	0%	0%	0%
2E652	48%	61%	80%	30%	60%
2E672	9%	15%	20%	69%	40%
PREDOMINANT GRADE(S)	E-4/E-3	E-4/E-5	E-5/E-6	E-7	E-4
AVERAGE MONTHS IN CAREER FIELD	60	55	81	168	100
AVERAGE MONTHS IN SERVICE	78	87	152	173	132
PERCENT IN FIRST ENLISTMENT (1-48 MOS TAFMS)	46%	27%	0%	0%	0%
PERCENT SUPERVISING	33%	52%	40%	43%	60%
AVERAGE NUMBER OF TASKS PERFORMED	170	104	39	42	51

\* Less than 1 percent

TABLE 4 (CONTINUED)

## SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	MAINT CNTRL JOB	QUALITY CNTRL JOB	EI TEAM CHIEF JOB	FIRST-LINE SUPERVISOR JOB	TRAINING MGMT JOB	MAINT SUPT JOB
NUMBER IN GROUP	6	6	6	30	7	11
PERCENT OF SAMPLE	6%	6%	6%	31%	7%	11%
PERCENT IN CONUS	83%	100%	100%	77%	100%	82%
DAFSC DISTRIBUTION:						
2E632	0%	0%	0%	0%	0%	0%
2E652	50%	50%	67%	10%	43%	18%
2E672	50%	50%	33%	90%	57%	82%
PREDOMINANT GRADE(S)	E-5	E-6	E-5/E-6	E-7	E-6	E-7
AVERAGE MONTHS IN CAREER FIELD	120	101	134	172	131	150
AVERAGE MONTHS IN SERVICE	134	140	157	212	162	206
PERCENT IN FIRST ENLISTMENT (1-48 MOS TAFMS)	0%	0%	0%	0%	0%	0%
PERCENT SUPERVISING	0%	67%	100%	100%	57%	100%
AVERAGE NUMBER OF TASKS PERFORMED	23	82	84	87	58	29

Task B, there is a high likelihood that the two tasks share common skills and knowledge and can be trained together. CODAP calculates an index of coperformance for each task with every other task by examining the task performance patterns of all the survey respondents as a whole. Thus, the resulting TMs can be used to summarize and compare jobs. The display shows the number of tasks included in a module, the percent time spent on tasks in that module, and an average percent members performing the particular TM. Representative TMs are listed as part of the job description. The list of tasks within respective modules is presented in Appendix B.

I. CABLE INSTALLATION AND MAINTENANCE JOB (ST029). The 523 airmen forming this group are responsible for the core work of the career ladder. They comprise 73 percent of the survey sample, and were the largest job identified. Their responsibilities vary, ranging from initial preparation of cable installation job sites, to include setting up road guards and uncovering manholes, to the actual splicing and sealing of cables, as well as installing subterranean cables and maintaining cable terminals. Typical of the average 170 tasks performed are:

- remove or replace manhole covers
- backfill cable splicing pits or cable trenches using handtools
- install buried cables
- splice filled cables
- tag cables or splices
- establish talking circuits
- install splice cases
- set up or prepare cable sections for splicing

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0002	prepare, install cables	21	14	83
0003	detect cable faults	5	3	77
0001	maintain vehicles, equipment	8	5	76
0004	install cable components	16	8	76
0007	locate buried cables	3	1	68
0039	prepare cable maintenance sites	6	2	61

These airmen average 5 years in the career field, with the predominant paygrades being E-4 and E-3. Ninety-one percent of these members reported holding the 3- or 5-skill level.

II. HARDENED INTERSITE CABLE SYSTEMS (HICS) INSTALLATION AND MAINTENANCE JOB (ST053). Comprising 5 percent of the survey sample, these 33 airmen are responsible for the installation and maintenance of the HICS. The HICS is a hardened, pressurized cable network for electrically linking the launch control facilities and the launch facilities of a missile wing. Airmen in this group install cables, as well as maintain pressurization of the HICS. Distinctive tasks among the average 104 tasks performed include:

- inspect ESA rooms
- interpret system status reports from pressure monitoring receiver transmitters (PMRTs)
- maintain stored cables in HICS cable yards
- maintain or clean cable air dryers
- adjust cable air dryers output pressure
- install HICS line-of-site and splice marker poles

Representative TMs defining this job are:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0095	maintain HICS cables	6	7	88
0096	maintain HICS pressure equipment	6	5	86
0037	maintain HICS cable components	4	3	85
0036	inspect HICS cables	4	4	80
0097	install and maintain HICS pressure transmitters	7	5	80

The airmen in this job report an average time of 4 and 1/2 years in the career field, with the majority of the group holding a 5-skill level. The predominant paygrades are E-4 and E-5. Members of this group are stationed at one of four Air Force Bases: F.E. Warren, Malmstrom, Grand Forks, or Minot.

III. CABLE SUPPLY JOB (ST155). The 5 members (less than 1 percent of the survey sample) forming this group are tasked with maintaining cable tool cribs, equipment, and supplies, along with corresponding documentation for all equipment. These airmen are also responsible for ordering special supplies, scheduling equipment for calibration, and performing numerous other actions which maintain the cable supply. An average of 39 tasks are performed by this group, to include the following specific tasks:

- research or initiate special supply requisitions
- procure follow-up information on special supply requisitions
- maintain bench stock or tool cribs
- maintain supply transaction listings or rosters, such as M30, D04, D18, or D19
- review test equipment calibration schedules
- establish bench stock levels

Selected representative TMs include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0011	inventory equipment	3	10	100
0034	maintain cable supplies	8	27	97
0087	maintain and schedule test equipment	3	9	93
0086	prepare and turn-in excess project materials	2	4	70
0088	monitor cable equipment	5	7	52

These NCOs average less than 7 years in the career field, with the predominant paygrades being E-5 and E-6.

IV. SUPERVISORY AND MANAGEMENT CLUSTER (ST014). This cluster of jobs encompasses many supervisory and management functions necessary for the Communications Cable Systems career ladder. Accounting for 13 percent of the survey sample, this group of experienced NCOs averages 12 years in the career field. The predominant paygrade is E-7. Within the cluster, 69 percent hold a 7-skill level, and 73 percent reported supervising 1 or more individuals. The eight jobs identified within this cluster are discussed below.

A. Quality Assurance Job (ST088). The 14 NCOs that represent this job are responsible for inspecting in-progress and completed cable work, as well as inspecting fiber-optic cable systems, subterranean structures, MDFs, and cable test equipment. Unlike Quality Control personnel, members of this group are tasked with performing general administrative and supply functions in addition to inspecting cables and associated equipment. Of the average 42 tasks performed, the following are distinctive to this job:

- inspect terminals
- inspect MDFs
- inspect subterranean structures, such as cable vaults, handholes, or manholes
- inspect general aerial, buried, or underground communications electronics or meteorological (CEM) cable splices
- inspect fiber-optic cable systems, such as modems, cables, T-carriers, or repeaters
- inspect MDF protector sections

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0010	inspect cable equipment	12	23	68
0049	plan and organize cable installation and maintenance	5	8	61
0020	inspect cable equipment	6	10	58
0050	maintain cable records and files	7	6	36
0090	complete and maintain cable documentation	6	4	36
0091	coordinate logistical support	4	3	36

Members of this group are senior NCOs and average 14 years in the career field, with the predominant grade being E-7. Sixty-nine percent of respondents within the cluster reported having the 7-skill level.

B. HICS Cable Affairs Job (ST140). The five NCOs comprising this group are responsible for the coordination and administration of HICS maintenance. Members maintain communications-computer systems installation records and publication files, as well as coordinate installations with contractors and schedule work assignments and priorities. Distinctive tasks include:

- annotate circuit identification and recording system (CIRS) records
- initiate cable location and identification procedures
- maintain cable records, diagrams, or card files
- perform aerial fly-over inspections or surveys
- maintain publication files or publication reading files, other than TO files

Representative TMs defining this job are:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0049	plan and organize cable installation and maintenance	5	13	92
0050	maintain cable records and files	7	16	83
0085	maintain publications and TO files	2	2	50
0031	conduct and evaluate training	3	2	47
0030	coordinate cable installations	6	5	43

The predominant paygrade for this group is E-4, with an average of 8 years in the career field. Sixty percent of this group reported a 5-skill level, while 40 percent reported a 7-skill level.

C. Maintenance Control Job (ST068). The six airmen comprising this group are responsible for coordinating logistical requirements for communications cable systems. Members are tasked with coordinating cable installations, implementing customer request procedures, and maintaining work status indicators. Tasks representative of this job include:

- establish customer survey procedures or follow-ups
- initiate travel order requests
- coordinate communication requirements with customers
- evaluate project drawings or specifications
- review lists of materials, project drawings, or project specifications
- determine logistics requirements, such as personnel, space,  
equipment, or supplies
- plan cable installations, modifications, removals, or rehabilitations



Selected representative TMs for this job include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0030	coordinate cable installations	6	26	81
0049	plan and organize cable installation and maintenance	5	12	57
0033	conduct customer satisfaction programs	4	7	46
0090	complete and maintain cable documentation	6	7	28
0050	maintain cable records and files	7	9	21

The average time in the career field for Maintenance Control personnel is 10 years, with the predominant paygrade being E-5.

D. Quality Control Job (ST197). Similar to Quality Assurance personnel, the six members in this group are responsible for inspecting communications cable equipment. However, Quality Control personnel spend more time inspecting and evaluating personnel, as well as inspecting cables and associated equipment, than Quality Assurance personnel. Members of this group are responsible for evaluating inspection findings, scheduling inspections, and recording inspection results. Examples of the most representative tasks common to these respondents include:

- identify problem areas using deficiency or service reports
- schedule equipment or facility inspections
- inspect cable air dryers or flow panels
- direct development or maintenance of status indicators, such as  
boards, graphs, or charts
- inspect cables and associated equipment for evidences of corrosion
- inspect emergency safety equipment

TMs defining this group are:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0032	evaluate and counsel personnel	5	6	87
0080	supervise cable craftsmen	7	8	81
0010	inspect cable equipment	12	11	75
0031	conduct and evaluate training	3	3	72
0036	inspect HICS cables	4	6	67

Members of this job are overall less experienced than those in the Quality Assurance job. Members of this group reported an even 50 percent split between 5- and 7-skill levels. Unlike Quality Assurance personnel, where the predominant paygrade is E-7, the predominant paygrade held by Quality Control personnel is E-6, and the average time in the career field is 8 years.

E. Engineering and Installation (EI) Team Chief Job (ST257). The six members forming this group are responsible for administrative functions within the Engineering and Installation Team. Personnel conduct briefings, determine logistics requirements, and coordinate and prioritize cable installations. Some exclusive tasks include:

- turn in excess project materials
- complete daily documentation of job logs, summaries, project drawings, or manhour utilization data
- conduct and document final project acceptance inspections with quality assurance evaluators or base quality control inspectors
- plan or implement deployment actions, such as obtaining team support, billeting, transportation, or messing facilities
- initiate engineering change request/authorizations (ECR/As)
- procure travel arrangements for installation or maintenance teams

TMs which characterize this group are:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0086	prepare and turn-in excess project materials	2	3	100
0011	inventory equipment	3	4	89
0031	conduct and evaluate training	3	3	89
0032	evaluate and counsel personnel	5	6	87

The predominant paygrades for this job are E-5 and E-6, with the majority of personnel reporting a 5-skill level. Members of this group average 11 years in the career field.

F. First-Line Supervisor Job (ST173). The 30 NCOs forming this group perform supervisory functions, such as evaluating and counseling personnel, writing EPRs, and assigning personnel to duty positions, with an emphasis on organizing and planning cable maintenance. Some specific supervisory tasks performed include:

- supervise Communications Cable Systems Craftsmen (AFSC 2E672)
- write EPRs
- schedule personnel for temporary duty (TDY) assignments, leaves, or passes
- assign personnel to duty positions
- plan or schedule work assignments or priorities
- analyze workload requirements
- assign sponsors for newly assigned personnel

Representative TMs for this group include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0032	evaluate and counsel personnel	5	95	8
0077	schedule personnel	3	4	94
0030	coordinate cable installations	6	9	93
0076	supervise cable personnel	7	9	84
0078	evaluate maintenance work	6	5	76

Personnel in this job represent the most experienced members of the career ladder, with an average time in the career field of 14 years. Ninety percent report holding the 7-skill level, and the predominant paygrade is E-7.

G. Training Management Job (ST096). The seven NCOs comprising this job are responsible for conducting resident course training for airmen in the Communications Cable Systems career field at the technical school at Sheppard AFB TX. Some characteristic tasks of this job include:

- maintain training areas or equipment
- maintain training aids, charts, or graphs
- conduct resident course classroom training
- implement training programs
- maintain study reference files
- procure training aids, space, or equipment
- conduct training conferences or briefings

Representative TMs for this group include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0083	coordinate and conduct training	12	22	75
0032	evaluate and counsel personnel	5	5	63
0031	conduct and evaluate training	3	4	62
0089	develop and conduct training	13	17	59

The predominant grade among members of this group is E-6. Personnel average slightly less than 11 years in the career field.

H. Maintenance Superintendent Job (ST074). Similar to the first-line supervisors, the 11 NCOs forming this group are responsible for evaluating and rating personnel performance. However, unlike first-line supervisors, members of this group also perform some cable

installation and maintenance work. In addition to supervisory tasks, they are also responsible for administrative duties, such as scheduling work assignments, establishing performance standards, and analyzing workload requirements. Tasks representative of this job include:

- interpret policies, directives, or procedures for subordinates
- write EPRs
- conduct performance feedback worksheet (PFW) evaluation sessions
- clean tools
- evaluate personnel for compliance with work or performance standards
- evaluate personnel for promotion, demotion, reclassification, or special awards

Representative TMs for this group include:

TM	Module Title	No. of Tasks	Percent Time Spent	Avg Pct Mbrs Perf
0032	evaluate and counsel personnel	5	20	91
0076	supervise cable personnel	7	12	48
0077	schedule personnel	3	3	45
0078	evaluate maintenance work	6	6	36
0030	coordinate cable installations	6	7	35

Individuals in this job average over 12 years in the career field, with 100 percent of the members supervising subordinates, and a majority holding the 7-skill level.

#### Comparison of Current Job Description to Previous Survey Findings

The results of the specialty job analysis were compared to those of OSR AFPT 90-361-822, CABLE SPLICING PROJECT/MAINTENANCE ACTION (formerly AFSC 361X1), dated January 1991. After reviewing the tasks comprising the jobs identified in 1991, all of the groups with substantial numbers of personnel could be linked to similar task performances by 1995 sample groups (see Table 5).

The jobs within the career ladder have remained essentially the same, and the work performed by Communications Cable Systems personnel has not varied since the last report. Differences between the current and previous survey result from variations in job typing.

TABLE 5  
SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1991 SURVEYS

CURRENT SURVEY (N=718)	PERCENT OF SAMPLE	1991 SURVEY (N=597)	PERCENT OF SAMPLE
CABLE INSTALLATION AND MAINTENANCE CLUSTER (N=523)	73%	CABLE SPLICING, INSTALLATION & MAINTENANCE CLUSTER (N=362)	61%
HICS INSTALLATION AND MAINTENANCE JOB (N=33)	5%	HICS & CABLE MAINTENANCE TECHNICIAN CLUSTER (N=50)	8%
CABLE SUPPLY JOB (N=5)	1%	CABLE SUPPLY IJT (N=5)	1%
SUPERVISORY AND MANAGEMENT CLUSTER (N=96)	13%	SUPERVISORY CLUSTER (N=18)	3%
Quality Assurance Job (N=5)	1%	QA/QC INSPECTOR & EVALUATOR IJT (N=10)	2%
HICS Cable Affairs Job (N=5)	1%	CABLE AFFAIRS TECHNICIAN CLUSTER (N=12)	2%
Maintenance Control Job (N=6)	1%	Cable Maintenance & HICS NCOICs (N=22)	4%
Quality Control Job (N=6)	1%		
EI Team Chief Job (N=6)	1%	EI Outside Plant Team Chiefs JT (N=21)	4%
First-Line Supervisor Job (N=30)	4%	FIRST-LINE SUPERVISOR CLUSTER (N=46)	8%
Training Management Job (N=7)	1%	Training Supervisors (N=10)	2%
		TRAINING IJT (N=14)	2%
Maintenance Superintendent Job (N=11)	11%	-	
-		Wire Chiefs (N=6)	1%
-		EI TEAM MEMBER IJT (N=13)	2%

- Indicates no match in report

Note: Columns may not add to 100 percent due to rounding

### Summary

Utilizing the special job-identifying techniques described at the beginning of this section, three jobs and one cluster were identified in the career ladder structure analysis. The three named jobs were directly involved in performing the full range of duties and responsibilities of communications cable systems installers and maintainers, both in Communications Cable Systems and HICSS. The remaining Supervisory and Management Cluster was distinctive due to the predominance of supervision, management, and training-type tasks performed by the career ladder members. Jobs within the cluster represent quality control, training and two levels of supervisors.

A majority of the members in this career ladder are performing a common core of tasks centering around the installation and maintenance of communications cable systems. Overall, personnel are performing the jobs as defined in the current classification structure.

### **ANALYSIS OF DAFSC GROUPS**

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as the AFMAN 36-2108 *Specialty Description* and the Course Training Standard (CTS), reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the average percent time spent on each duty across the skill-level groups. Both 3- and 5-skill level groups perform mostly technical duties, with 5-skill level personnel also performing minimal amounts of supervisory and training duties. Seven-skill level members report the majority of their job time is spent on supervisory, training, and administrative duties (see Table 7, Duties A, B, C, D, E, and F). It is also evident, however, that the 7-skill level personnel are still involved with technical task performance, as will be outlined in the specific skill-level group discussions below. This indicates a career ladder with a high level of technical task performance for all personnel up to and including 7-skill level personnel.

TABLE 6

DISTRIBUTION OF AFSC 2E6X2 MEMBERS ACROSS SPECIALTY JOBS  
(PERCENT MEMBERS RESPONDING)

SPECIALTY JOBS		DAFSC 2E632 (N=253)	DAFSC 2E652 (N=338)	DAFSC 2E672 (N=127)
I.	CABLE INSTALLATION AND MAINTENANCE JOB (N=523)	89	75	37
II.	HICS INSTALLATION AND MAINTENANCE JOB (N=33)	3	6	4
III.	CABLE SUPPLY JOB (N=5)	-	1	1
IV.	QUALITY ASSURANCE JOB (N=14)	-	1	9
V.	HICS CABLE AFFAIRS JOB (N=5)	-	1	2
VI.	MAINTENANCE CONTROL (N=6)	-	1	2
VII.	QUALITY CONTROL JOB (N=6)	-	1	2
VIII.	EI TEAM CHIEF JOB (N=6)	-	1	2
IX.	FIRST LINE SUPERVISOR JOB (N=30)	-	1	21
X.	TRAINING MANAGEMENT (N=7)	-	1	3
XI.	MAINTENANCE SUPERINTENDENT (N=11)	-	1	7
XII.	NOT GROUPED (N=61)	8	10	10

\* Denotes less than 1 percent

- Denotes duty not performed



TABLE 7

AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY AFSC 2E6X2 GROUPS  
(RELATIVE PERCENT OF JOB TIME)

DUTIES	DAFSC 2E632 (N=253)	DAFSC 2E652 (N=338)	DAFSC 2E672 (N=127)
A ORGANIZING AND PLANNING	1	5	13
B DIRECTING AND IMPLEMENTING	*	4	11
C INSPECTING AND EVALUATING	*	4	15
D TRAINING	*	4	7
E PERFORMING TEAM CHIEF FUNCTIONS	*	*	2
F PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	4	7	12
G PERFORMING GENERAL PREPARATION AND MAINTENANCE FUNCTIONS	33	23	10
H INSTALLING GENERAL COMMUNICATIONS SYSTEMS CABLES AND ASSOCIATED EQUIPMENT	12	10	4
I INSPECTING CABLES AND ASSOCIATED EQUIPMENT	5	7	8
J PERFORMING CABLE TESTS AND RELATED FUNCTIONS	12	10	4
K MAINTAINING AND SPLICING GENERAL CABLE SYSTEMS	9	7	3
L SEALING SPLICES	5	5	2
M PRESSURIZING AND MAINTAINING CABLE PRESSURE SYSTEMS	3	4	2
N INSTALLING AND MAINTAINING HARDENED INTERSITE CABLE SYSTEMS (HICS)	2	3	2
O INSTALLING AND MAINTAINING FIBER-OPTIC CABLE SYSTEMS	11	8	4

\* Denotes less than 1 percent

NOTE: Columns may not add up to 100 percent due to rounding

### Skill-Level Descriptions

Another way to illustrate these skill-level descriptions, as previously done with job descriptions, is to summarize tasks performed into groups of tasks (TMs). This allows for a very concise display of where skill-level groups spend most of their time, and thus develops a comprehensive overview of each skill-level group. These modules can provide training personnel with groups of tasks on which to focus resident training and upgrade training to journeyman or craftsman. The display shows the number of tasks included in a module, the percent time spent on tasks in that module, and an average percent members performing the particular TM. These modules were identified through CODAP coperformance clustering, which presents the average probability that if you perform one task you also perform a second task or a group of related tasks. The probabilities are calculated based on the actual coperformance of tasks by respondents in this survey sample. Representative TMs are listed as part of the skill-level descriptions. The list of modules with respective tasks is represented in Appendix B.

DAFSC 2E632. The 253 airmen in this group (representing 35 percent of the survey sample), perform an average of 119 tasks. Eighty-nine percent of this group hold the Cable Installation and Maintenance Job (Table 6). Performing a highly technical job, 97 percent of their relative duty time is devoted to core AFSC-specific technical duties covering general communications cable systems maintenance activities (Table 7). Table 8 displays representative tasks performed by these airmen. The high level of common tasks performed by these respondents indicates a very homogeneous career ladder.

Representative TMs for this 3-skill level group include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Avg Pct Mbrs Perf
0002	prepare, install cables	21	17	73
0004	install cable components	16	9	63
0001	maintain vehicles, equipment	8	7	68

DAFSC 2E652. The 338 airmen in this 5-skill level group (47 percent of the survey sample) perform an average of 159 tasks. Performing a highly technical job, 82 percent of their relative job time is devoted to duties covering general communications cable systems maintenance activities (Duties F through O in Table 7). Table 6 reinforces this fact; 75 percent of the members responding are in the Cable Installation and Maintenance Job. Table 9 displays representative tasks performed by the highest percentages of these airmen. Table 10 presents those tasks which reflect differences between the 3- and 5-skill level groups. A review of the tasks performed reveals that 5-skill level airmen perform virtually the same technical tasks as do

TABLE 8  
REPRESENTATIVE TASKS PERFORMED  
BY 2E632 PERSONNEL  
(N=253)

TASKS	PERCENT MEMBERS PERFORMING	
G175	Clean tools	92
G169	Backfill cable splicing pits or cable trenches using handtools	90
G189	Erect barriers or manhole guards around open trenches or pits	82
G219	Remove or replace manhole covers	82
G173	Clean manholes	81
G229	Set up or position cable reels	79
G199	Inspect service trucks for tools, parts, or materials	77
G201	Load splicing materials on splicer's trucks	76
G227	Set up manhole ladders	76
H304	Tag cables or splices	76
G230	Set up or prepare cable sections for splicing	76
G238	Transport vehicles, equipment, tools, or poles to job sites	75
H254	Install buried cables	75
G226	Set up buried cables for splicing	74
G195	Excavate splicing pits or cable trenches using handtools	73
G225	Select and position traffic warning devices required for work areas	73
G196	Form cables in subterranean structures by hand	73
G216	Rack cables in subterranean structures	73
J358	Establish talking circuits	72
K424	Splice filled cables	72
G222	Rod cable conduits	72
K434	Straight-splice plastic-sheathed plastic insulated cables	71
J351	Detect cable faults using multimeters	70
G180	Complete cardiopulmonary resuscitation (CPR) certifications	69
H243	Bury cables using open trench method	69
K404	Clear cap conductors	67
G202	Load or unload cable reels on trailers	66
G174	Clean splicing pits	66
G239	Ventilate subterranean structures	66

Average number of tasks performed = 119

TABLE 9  
REPRESENTATIVE TASKS PERFORMED  
BY 2E652 PERSONNEL  
(N=338)

TASKS	PERCENT MEMBERS PERFORMING
G175 Clean tools	81
G169 Backfill cable splicing pits or cable trenches using handtools	77
G208 Perform operator maintenance on general purpose or special purpose vehicles	72
G219 Remove or replace manhole covers	70
G229 Set up or position cable reels	70
G195 Excavate splicing pits or cable trenches using handtools	70
G196 Form cables in subterranean structures by hand	70
G192 Excavate cable trenches	69
H304 Tag cables or splices	69
L442 Install splice cases	69
H254 Install buried cables	69
J351 Detect cable faults using multimeters	69
G230 Set up or prepare cable sections for splicing	69
G180 Complete cardiopulmonary resuscitation (CPR) certifications	68
G189 Erect barriers or manhole guards around open trenches or pits	68
G216 Rack cables in subterranean structures	68
G173 Clean manholes	68
J358 Establish talking circuits	68
G225 Select and position traffic warning devices required for work areas	68
G226 Set up buried cables for splicing	68
G222 Rod cable conduits	67
J354 Detect splicer's errors using multimeters	67
G239 Ventilate subterranean structures	67
H243 Bury cables using open trench method	67
J380 Mark buried cable paths	66
G201 Load splicing materials on splicer's trucks	66
K434 Straight-splice plastic-sheathed plastic insulated cables	66
K404 Clear cap conductors	66
G237 Test subterranean atmospheres for environmental or safety hazards	65
I345 Inspect completed work	65
K424 Splice filled cables	65

Average number of tasks performed = 159

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN 2E632 AND 2E652 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 2E632 (N=253)	DAFSC 2E652 (N=338)	DIFF
G189 Erect barriers or manhole guards around open trenches or pits	82	68	14
G173 Clean manholes	81	68	13
G199 Inspect service trucks for tools, parts, or materials	77	64	13
G169 Backfill cable splicing pits or cable trenches using handtools	90	77	13
G227 Set up manhole ladders	76	64	12
G219 Remove or replace manhole covers	82	70	12
G238 Transport vehicles, equipment, tools, or poles to job sites	75	64	11
G175 Clean tools	92	81	11
G201 Load splicing materials on splicer's trucks	76	66	10
B30 Counsel personnel on personal or military-related matters	5	46	-41
D81 Counsel trainees on training progress	4	44	-40
D77 Conduct OJT	13	53	-40
B42 Supervise Communications Cable Systems Apprentices (AFSC 2E632)	6	44	-38
C72 Write EPRs	4	41	-37
C55 Evaluate personnel for compliance with work or performance standards	4	39	-35
C49 Conduct performance feedback worksheet (PFW) evaluation sessions	4	39	-35
A12 Establish performance standards for subordinates	5	38	-33
A16 Plan or schedule work assignments or priorities	6	36	-30

the 3-skill level members. However, a slightly higher percentage of 3-skill level members performs these tasks. More 5-skill level members indicate they perform some supervisory functions, although to a limited degree.

Representative TMs for this 5-skill level group include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Avg Pct Mbrs Perf
0001	maintain vehicles, equipment	8	5	68
0002	prepare, install cables	21	10	67
0004	install cable components	16	6	62

DAFSC 2E672. The 127 NCOs in this 7-skill level group (18 percent of the survey sample), perform an average of 124 tasks. Table 11 outlines the tasks performed by this skill level group. Sixty percent of their relative job time is spent on supervisory, administrative, and training duties, as depicted in Table 7. This table also reflects the range and scope of the job, in that these 7-skill level members are still spending 40 percent of their relative job time performing a variety of routine communications cable systems technical tasks. Table 12 displays those tasks which more clearly differentiate between the 5- and 7-skill level groups. Higher percentages of 5-skill levels perform tasks which are technical in nature, whereas more 7-levels perform supervisory and management functions.

Representative TMs for this 7-skill level group include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Avg Pct Mbrs Perf
0032	evaluate, counsel personnel	5	5	72
0076	supervise cable personnel	7	5	60
0010	inspect cable work and equipment	12	5	43

### Summary

Both 3- and 5-skill level airmen perform many tasks in common, and both groups spend the vast majority of their relative job time on AFSC-specific communications cable systems technical tasks. The 5-skill level group perform some supervisory and training tasks. At the 7-

TABLE 11  
 REPRESENTATIVE TASKS PERFORMED  
 BY 2E672 PERSONNEL  
 (N=127)

TASKS	PERCENT MEMBERS PERFORMING	
C72	Write EPRs	77
A16	Plan or schedule work assignments or priorities	73
C55	Evaluate personnel for compliance with work or performance standards	72
B30	Counsel personnel on personal or military-related matters	72
C49	Conduct performance feedback worksheet (PFW) evaluation sessions	71
I330	Inspect in-progress work	66
A12	Establish performance standards for subordinates	66
B39	Interpret policies, directives, or procedures for subordinates	64
A19	Review lists of materials, project drawings, or project specifications	63
B27	Conduct safety briefings	62
A3	Coordinate communication requirements with customers	61
B43	Supervise Communications Cable Systems Journeymen (AFSC 2E652)	61
A4	Coordinate installation of cable, antenna, or inside plant projects with using organizations	61
A14	Plan cable installations, modifications, removals, or rehabilitations	61
A13	Establish work methods or controls	61
B28	Conduct supervisory orientations of newly assigned personnel	61
D81	Counsel trainees on training process	60
F140	Interpret CIRS records or CSIRs	59
C56	Evaluate personnel for promotion, demotion, reclassification, or special awards	59
C58	Evaluate project drawings or specifications	58
C62	Evaluate work schedules	57
I347	Inspect work areas	57
B29	Conduct team briefings or debriefings, other than safety briefings	56
I320	Inspect completed work	55
A1	Assign personnel to duty positions	55
A7	Determine logistics requirements, such as personnel, space, equipment or supplies	54
B42	Supervise Communications Cable Systems Apprentices (AFSC 2E632)	54
D77	Conduct OJT	54
A23	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	53
F138	Interpret cable splicing diagrams	53

Average number of tasks performed = 124

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN 2E652 AND 2E672 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 2E652 (N=338)	DAFSC 2E672 (N=127)	DIFF
H242 Bond cables in subterranean structures	63	24	39
L442 Install splice cases	69	30	39
H304 Tag cables or splices	69	31	38
G175 Clean tools	81	43	38
G192 Excavate cable trenches	69	31	38
G169 Backfill cable spicing pits or cable trenches using handtools	77	39	38
G196 Form cables in subterranean structures by hand	70	32	38
G230 Set up or prepare cable sections for splicing	69	31	38
G226 Set up buried cables for splicing	68	31	37
H311 Terminate punch-on terminals	64	28	36
C62 Evaluate work schedules	12	57	-45
A2 Assign sponsors for newly assigned personnel	12	50	-38
A16 Plan or schedule work assignments or priorities	36	73	-37
A23 Schedule personnel for temporary duty (TDY) assignment, leaves, or passes	16	53	-37
C72 Write EPRs	41	77	-36
C60 Evaluate suggestions, requests, or complaints	12	46	-34
C56 Evaluate personnel for promotion, demotion, reclassification, or special awards	25	59	-34
B44 Supervise Communications Cable Systems Craftsmen (AFSC 2E672)	6	40	-34
B28 Conduct supervisory orientations of newly assigned personnel	28	61	-33
C55 Evaluate personnel for compliance with work or performance standards	39	72	-33



skill level, although members still perform a substantial amount of routine day-to-day communications cable systems technical activities, a shift toward supervisory functions is evident.

### **ANALYSIS OF AFMAN 36-2108 *SPECIALTY DESCRIPTIONS***

Survey data were compared to the AFMAN 36-2108 *Specialty Description* for Communications Cable Systems, dated 31 October 1994. The overall specialty description for the 3-, 5-, and 7-skill levels accurately describes the technical and supervisory nature of jobs at the various levels. The description also reflects the primary tasks and responsibilities discussed in the **SPECIALTY JOBS** section of this report.

### **ANALYSIS OF MAJCOMs**

Tasks and background data for personnel of the eight MAJCOMs with the largest AFSC 2E6X2 populations were compared to determine whether job content varied as a function of command assignment.

Generally, the jobs performed across the commands were similar, with many tasks performed in common. The largest percentage of relative job time in each command is committed to the performance of general preparation and maintenance functions, and installation of general communications systems cables and associated equipment (see Table 13). Minor variations were noted, with AFSOC reporting no time spent on pressurizing and maintaining cable pressure systems, installing and maintaining HICs, nor installing and maintaining fiber-optic cable systems.

### **TRAINING ANALYSIS**

Occupational survey data are one of the many sources of information which can be used to assist in the development of a training program relevant to the needs of personnel in their first enlistment. Factors which may be used in evaluating training include the overall description of the job being performed by first-enlistment personnel and their overall distribution across career ladder jobs, percentages of first-job (1-24 months TAFMS) or first-enlistment (1-48 months TAFMS) members performing specific tasks, or using certain equipment or tools, as well as TE and TD ratings (previously explained in the **SURVEY METHODOLOGY** section).

TABLE 13

## PERCENT TIME SPENT ON DUTIES BY MAJCOM GROUPS

DUTIES	USAFE (N=52)	AETC (N=34)	PACAF (N=76)	AFSOC (N=7)	ACC (N=90)	AMC (N=43)	AFMC (N=321)	AFSPCOM (N=94)
A ORGANIZING AND PLANNING	6	4	7	6	7	4	4	5
B DIRECTING AND IMPLEMENTING	5	4	4	5	5	4	3	4
C INSPECTING AND EVALUATING	5	3	5	5	7	5	3	5
D TRAINING	3	9	3	2	4	3	3	3
E PERFORMING TEAM CHIEF FUNCTIONS	*	*	*	1	*	*	1	*
F PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	9	5	7	7	8	6	6	9
G PERFORMING GENERAL PREPARATION AND MAINTENANCE FUNCTIONS	23	20	27	24	24	19	26	19
H INSTALLING GENERAL COMMUNICATIONS SYSTEMS CABLES AND ASSOCIATED EQUIPMENT	10	8	9	12	7	7	11	7
I INSPECTING CABLES AND ASSOCIATED EQUIPMENT	7	6	9	5	7	8	6	7
J PERFORMING CABLE TESTS AND RELATED FUNCTIONS	11	9	9	15	8	6	11	9
K MAINTAINING AND SPLICING GENERAL CABLE SYSTEMS	8	7	6	12	5	6	7	6
L SEALING SPLICES	5	6	3	5	3	4	5	6
M PRESSURIZING AND MAINTAINING CABLE PRESSURE SYSTEMS	3	4	2	-	2	7	2	8
N INSTALLING AND MAINTAINING HARDENED INTERSITE CABLE SYSTEMS (HICS)	*	2	*	-	6	15	*	7
O INSTALLING AND MAINTAINING FIBER-OPTIC CABLE SYSTEMS	6	10	8	-	7	4	11	4

\* Denotes less than 1 percent

- Denotes duty not performed

NOTE: Columns may not add to 100 percent due to rounding

### First-Enlistment Personnel

In this study, there are 270 members in their first enlistment (1-48 months TAFMS), representing 38 percent of the total survey sample. The job performed by these personnel is highly technical in nature, accounting for approximately 94 percent of their relative duty time (see Table 14). The largest percentage of their job time is spent performing general preparation and maintenance functions, as well as other cable installation and testing activities. Distribution of these personnel across the career ladder jobs is displayed in Figure 2, which also displays the vast majority of first-enlistment airmen in the Cable Installation and Maintenance Job. Table 15 displays some of the average 124 tasks performed by this group, which reflects general preparation and maintenance service functions, and general communications systems cable and equipment installation.

Due to the highly technical nature of their job, a major part of first-enlistment personnel often use various test and support equipment. The test equipment most used by both first-job and first-enlistment personnel are listed in Table 16. Table 17 shows the support equipment used by 30 percent or more of first-job and first-enlistment personnel. Other equipment often used by first-enlistment personnel, specifically splice cases and fiber-optic materials, are illustrated in Tables 18 and 19, respectively.

Representative TMs for this first-enlistment group include:

TM	Module Title	No. of Tasks	Percent Time Spent Sum	Avg Pct Mbrs Perf
0002	prepare, install cables	21	17	74
0003	detect cable faults	5	3	68
0001	maintain vehicles, equipment	8	7	70

### Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary factors that can assist technical school personnel in deciding which tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide training personnel with a rank-ordering of those tasks in the JI considered important for first-enlistment personnel training (TE) (see Table 20 for the top-rated tasks), along with a measure of the difficulty of the JI tasks (TD) (see high rated tasks presented in Table 21). A total of 121 tasks were rated high in TE (i.e., having a rating of over 5.56). Included in these tasks are determining cable status using OTDRs and multimeters, and detecting cable faults. The tasks rated highest in TE for communications cable systems personnel mostly encompass fiber-optic cable systems tasks (Duty O). The corresponding TD for these tasks reflect a high difficulty

TABLE 14

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES  
BY FIRST-ENLISTMENT PERSONNEL

DUTIES	PERCENT TIME SPENT
A ORGANIZING AND PLANNING	1
B DIRECTING AND IMPLEMENTING	*
C INSPECTING AND EVALUATING	*
D TRAINING	*
E PERFORMING TEAM CHIEF FUNCTIONS	*
F PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	4
G PERFORMING GENERAL PREPARATION AND MAINTENANCE FUNCTIONS	33
H INSTALLING GENERAL COMMUNICATIONS SYSTEMS CABLES AND ASSOCIATED EQUIPMENT	12
I INSPECTING CABLES AND ASSOCIATED EQUIPMENT	6
J PERFORMING CABLE TESTS AND RELATED FUNCTIONS	12
K MAINTAINING AND SPLICING GENERAL CABLE SYSTEMS	9
L SEALING SPLICES	6
M PRESSURIZING AND MAINTAINING CABLE PRESSURE SYSTEMS	3
N INSTALLING AND MAINTAINING HARDENED INTERSITE CABLE SYSTEMS (HICS)	2
O INSTALLING AND MAINTAINING FIBER-OPTIC CABLE SYSTEMS	11

\* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

# DISTRIBUTION OF AFSC 2E6X2 FIRST-ENLISTMENT PERSONNEL ACROSS CAREER LADDER JOBS

(N=270)

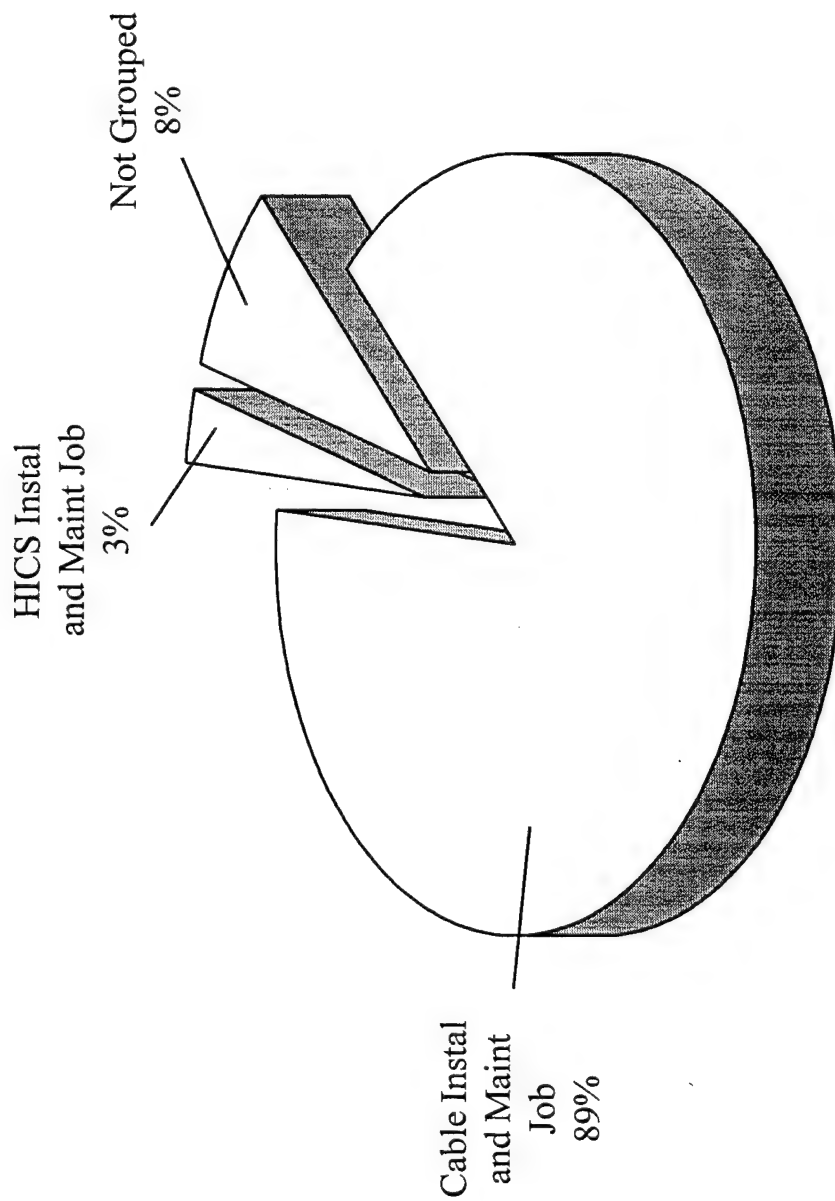


FIGURE 2

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY  
FIRST-ENLISTMENT PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=270)	
G175	Clean tools	93
G169	Backfill cable splicing pits or cable trenches using handtools	90
G219	Remove or replace manhole covers	83
G189	Erect barriers or manhole guards around open trenches or pits	83
G173	Clean manholes	81
G229	Set up or position cable reels	79
H304	Tag cables or splices	78
H254	Install buried cables	77
G230	Set up or prepare cable sections for splicing	77
G199	Inspect service trucks for tools, parts, or materials	76
G201	Load splicing material on splicer's trucks	76
G195	Excavate splicing pits or cable trenches using handtools	76
G227	Set up manhole ladders	76
G238	Transport vehicles, equipment, tools, or poles to job sites	75
G216	Rack cables in subterranean structures	75
G196	Form cables in subterranean structures by hand	74
G225	Select and position traffic warning devices required for work areas	74
G222	Rod cable conduits	74
J358	Establish talking circuits	74
K424	Splice filled cables	74
G226	Set up buried cables for splicing	74
J351	Detect cable faults using multimeters	73
L442	Install splice cases	73
K434	Straight-splice plastic-sheathed plastic insulated cables	72
H243	Bury cables using open trench method	71
G180	Complete cardiopulmonary resuscitation (CPR) certifications	71
K404	Clear cap conductors	68

Average number of tasks performed = 124

TABLE 16

TEST EQUIPMENT ITEMS USED BY 30 PERCENT OR MORE OF  
FIRST-JOB OR FIRST-ENLISTMENT PERSONNEL

TEST EQUIPMENT	PERCENT MEMBERS PERFORMING	
	1ST JOB (N=143)	1ST ENL (N=270)
Multimeters, Digital	80	81
Splicer's Headsets	70	72
Meggers, 500 Volts DC	62	64
Earth Fault and Cable Locators, Dynatel 573A	55	55
Multimeters, Analog	48	53
Optical Time Domain Reflectometers (OTDRs), Laser Metric or Laser Precision	48	53
TDRs, 1503	43	48
Toxic or Combustible Gas or Oxygen Deficiency Detectors, Mine Safety Appliances	43	47
Time Domain Reflectometers, 1502 Tektronics	46	49
Open Cable Faults & Splits Locators, Dynatel 735	38	44
Test Sets, Dynatel 710A, Fault Locators	38	42
Pressure Testing Gauges, Analog	34	35
Fault Locators, Resistance Dynatel 710B	31	39
Analyzers, Carbon Monoxide/Explosive Gas Detectors	29	36

TABLE 17

SUPPORT EQUIPMENT ITEMS USED BY 30 PERCENT OR MORE OF  
FIRST-JOB OR FIRST-ENLISTMENT PERSONNEL

SUPPORT EQUIPMENT	PERCENT MEMBERS PERFORMING	
	1ST JOB (N=143)	1ST ENL (N=270)
Wire Wrap Guns	44	56
Manhole Rain Rings	41	49
Ventilator Blowers or Sails	40	52
Bull Wheels	40	52
Pulling Grips	39	42
Portable Heaters	38	45
Cable Route Marker Installers	38	44
Cable Guides, Underground	38	37
Electric Soldering Irons	36	41
Canvas Umbrellas	35	45
Powder Actuated Tools, Ramset or Hilti	35	39
Optical Fiber Cutters	35	39
Nitrogen Cylinders, 224 CF	34	34
No-Nik Strippers	33	50
Pressure Testing Regulators	33	36
General Purpose Carriers	31	38
Cutting Tools, Such as Siecor Closure Washers	31	37
Fiber-Optic Polishing Machines	31	36
Portable Hammers	31	30
Epoxy Mixers	31	33
Saws, Gas and Electric	30	37
Trench Tents or Shelters	30	33
Safety Kits	29	38



TABLE 18

SPlice CASES USED BY 20 PERCENT OR MORE OF  
FIRST-JOB OR FIRST-ENLISTMENT PERSONNEL

SPlice CASES	PERCENT MEMBERS PERFORMING	
	1ST JOB (N=143)	1ST ENL (N=270)
Closures, Better Buried Reinterable	76	77
Closures, Preformed Line Products	51	58
Tapes, Temp Closure Cured Rubber (CR)	52	49
Closures, Type 2, such as Waffle Cases	50	55
Lead Sleeves	41	43
Cases, Plastic	34	30
Closures, Siecor	27	32
Ready-Access Splice or Terminal Cases	22	27
Closures, Vault	20	27
Closures, AMP Universal Fiber-Optic Splice	19	20

TABLE 19

FIBER-OPTIC MATERIALS USED BY 30 PERCENT OR MORE OF  
FIRST-JOB OR FIRST-ENLISTMENT PERSONNEL

FIBER-OPTIC MATERIALS	PERCENT MEMBERS PERFORMING	
	1ST JOB (N=143)	1ST ENL (N=270)
Alcohol Pads	55	63
Isopropyl Alcohol	48	57
Organizer Trays, Fiber-Optic	42	51
Fibers, Loose-Tube	44	50
Canned Air, Compressed	44	50
Closures, Fiber-Optic	39	50
Connectors, ST-Type	43	49
Adhesive, Epoxy	43	49
Splicers, 3M Fibr-Lok Mechanical	40	46
Index Matching Gels	36	46
Connectors, SMA Series 905/906	36	44
Mechanical Splices, Fiber-Optic	38	43
Fibers, Single Mode Step-Index	37	42
Fibers, Multimode Graded-Index	35	42
Fibers, Tight-Tube	31	41
Lapping Films	29	41
Fibers, Bulkhead	30	38

TABLE 20

TECHNICAL TASKS RATED HIGHEST IN TRAINING EMPHASIS (TE)  
BY AFSC 2E6X2 PERSONNEL

TASKS	TNG EMP*	PERCENT MEMBERS PERFORMING			TASK DIFF**
		1ST JOB (N=143)	1ST ENL (N=270)		
O573 Determine distances using OTDRs	7.12	36	46		5.95
O575 Determine splice losses using OTDRs	7.05	36	46		5.77
O570 Determine attenuation using OTDRs	6.93	36	46		6.33
O571 Determine connector losses using optical power multimeter single-meter method	6.93	15	24		5.90
O593 Install fiber-optic splice closures	6.83	17	27		6.05
O569 Determine attenuation using optical power multimeters	6.78	32	44		5.79
G237 Test subterranean atmospheres for environmental or safety hazards	6.78	54	64		4.03
O578 Hand polish fibers in fiber-optic connectors	6.76	30	36		5.77
G166 Perform first aid procedures on injured members	6.73	27	27		4.87
J373 Locate cable faults using time domain reflectometers (TDRs)	6.71	43	53		6.31
O572 Determine connector losses using optical power multimeter two-meter method	6.66	17	28		5.89
J358 Establish talking circuits	6.66	67	74		4.12
O601 Isolate malfunctions within fiber-optic cables	6.66	67	74		4.12
J354 Detect splicer's errors using multimeters	6.61	57	68		5.12
O634 Splice fiber-optic stranded cables using mechanical method	6.61	11	14		6.21
K424 Splice filled cables	6.51	73	74		5.24
O577 Fusion splice single-mode fibers	6.49	43	41		6.24
J372 Locate cable faults using open fault locators	6.49	21	30		6.13
J351 Detect cable faults using multimeters	6.46	64	73		5.22
G180 Complete cardiopulmonary resuscitation (CPR) certifications	6.46	64	71		4.67

\* Mean TE Rating is 3.73, and Standard Deviation is 1.83 (High TE = 5.56)

\*\* Average TD Rating is 5.00.

TABLE 21

## TASKS RATED HIGHEST IN TASK DIFFICULTY (TD) BY AFSC 2E6X2 PERSONNEL

TASKS	TASK DIFF*	PERCENT MEMBERS PERFORMING				
		1ST JOB (N=143)	1ST ENL (N=270)	DAFSC 2E652 (N=338)	DAFSC 2E672 (N=127)	TNG EMP*
N550	7.83	3	3	5	1	3.02
N548	7.74	6	5	8	4	3.20
D083	7.48	1	1	9	11	.51
A008	7.42	2	2	16	38	.80
C073	7.41	1	1	8	32	.80
A011	7.40	2	2	12	37	.93
C072	7.39	1	1	64	82	1.46
C071	7.30	1	1	3	15	.41
D099	7.30	1	1	5	4	.51
D084	7.24	1	1	14	18	.88
N551	7.23	2	1	4	1	3.10
N549	7.21	4	4	8	5	3.15
A014	7.20	13	18	56	60	2.24
O631	7.00	9	9	4	4	5.37
H280	6.98	1	3	6	1	3.15
D086	6.94	1	1	5	10	.68
O596	6.94	1	1	1	4	5.66
H287	6.90	0	1	2	4	3.46
B041	6.89	1	2	10	26	.78
D085	6.88	1	1	9	11	.39
D100	6.88	1	1	8	11	.29

\* Average TD Rating is 5.00

\*\* Mean TE Rating is 3.73, and Standard Deviation is 1.83 (High TE = 5.56)

(over 5.00). However, the percentages of first-enlistment personnel performing these tasks are mainly below 50 percent, as illustrated in Table 20. Thus, some OJT programs for fiber-optic cable systems tasks may be warranted in this career field. Tasks that were rated highest in task difficulty included supervisory and management tasks, HICS procedures, and fiber-optic cable procedures. When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist technical school personnel, AFOMS has developed a computer program that incorporates these secondary factors and the percentage of first-assignment personnel performing each task to produce an Automated Training Indicator (ATI) for each task. These indicators correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 1, AETCR 52-22, and allow course personnel to quickly focus their attention on those tasks which are most likely to qualify for initial resident course consideration.

Various lists of tasks, accompanied by TE and TD ratings, and where appropriate, ATI information, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.)

#### Specialty Training Standard (STS)

The STS for AFSC 2E6X2 is composed of a CTS for AFSC 2E632 personnel and a Career Training Guide for AFSC 2E652 personnel. The CTS establishes the training requirements for airmen to perform 3-skill level duties in the Communications Cable Systems career ladder. A comprehensive review of the CTS 2E632, dated October 1994, compared CTS items to survey data (based on the previously mentioned assistance from SMEs in matching JI tasks to CTS elements). Task knowledge and performance elements of the CTS were compared against the standard set forth in AETCR 52-22 and AFI 36-2623 (i.e., include tasks performed or knowledge required by 30 percent or more of the personnel in a skill level (criterion group) of the AFS). Due to an absence of proficiency codes in the CTS used for this career ladder, analysis of the data in support of the 3-skill level course proficiency code was unable to be accomplished. Therefore, analysis of the STS is solely based on JI tasks matched to CTS elements using the above 30 percent or more criterion.

A small portion of the CTS was found to be unsupported by occupational survey data. Sixty-one of 161 entries did not meet the 30 percent members performing criterion. Of these 61 entries, only 2 entries may be justified for retention based on high TE ratings (paragraphs 10.28

and 12.20). Due to the inability to match proficiency codes to the survey data, it is highly recommended that the remaining 59 entries be reviewed by SMEs. A few selected CTS entries are presented in Table 22 to display the scope of unsupported CTS entries.

Tasks not matched to any element of the CTS are listed at the end of the CTS computer listing. These were reviewed to determine if there were any tasks concentrated around any particular functions or jobs. No particular trends were noted. Examples of technical tasks performed by 30 percent or more respondents of the CTS target groups, but which were not referenced to any CTS element, are displayed in Table 23. Training personnel and SMEs should consider these unreferenced tasks to determine if inclusion in the CTS is justified.

## **JOB SATISFACTION ANALYSIS**

An examination of the job satisfaction indicators of various groups can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. Questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet to provide indications of job satisfaction. Table 24 presents job satisfaction data for AFSC 2E6X2 TAFMS groups, together with data for a comparative sample of Logistics career ladders surveyed in 1994. These data can give a relative measure of how the job satisfaction of AFSC 2E6X2 personnel compares with other similar Air Force specialties. A review of this table shows that AFSC 2E6X2 TAFMS groups report high job interest, well perceived utilization of talents, and a strong sense of accomplishment gained from their work. A high percentage also intend to reenlist.

Indications of how job satisfaction perceptions have changed over time is provided in Table 25, where AFSC 2E6X2 TAFMS group data for 1995 survey respondents are presented, along with data from respondents to the last occupational survey involving this career ladder, published in 1991. A comparison of these data indicates that current job satisfaction responses are essentially the same or on par with those in 1991, with the exception of the 49-96 months group, which reported a drop in job interest from 1991 to 1995.

Finally, Table 26 presents job satisfaction responses from personnel in the specialty jobs discussed in the **SPECIALTY JOBS** section of this report. An examination of these data can show how overall job satisfaction may be influenced by the type of job performed. Review of the job satisfaction data for personnel in the jobs identified in the **SPECIALTY JOBS** analysis in Table 26 reveals generally positive responses in all of the five job satisfaction indicators. Only two jobs, HICS Installation and Maintenance Job and Maintenance Superintendent Job showed low job interest. Personnel in the Maintenance Superintendent Job reported low utilization of talents and training in their jobs.

TABLE 22

EXAMPLES OF CTS 2E632 ELEMENTS NOT SUPPORTED BY SURVEY DATA  
(LESS THAN 30 PERCENT MEMBERS PERFORMING)

STS ITEMS (with selected matched tasks)	PERCENT MEMBERS PERFORMING					
	TNG EMP*	1ST ENL (N=270)	DAFSC 2E652 (N=338)	DAFSC 2E672 (N=127)	TSK DIFF**	
3.7 Splice a RG-216 coaxial cable.						
K426 Splice radio ground (RG) coaxial cables	4.93	7	15	6	5.66	
7.9 Test a suspension strand using the two-person method.						
J394 Perform suspension strand tests	3.95	10	7	8	3.49	
11.21 Adjust the pressure setting on a PEC 524 pressure contactor.						
M467 Adjust base cable pressure contactors	3.90	8	8	4	4.49	
M507 Perform operational checks of pressure contactors	4.12	6	6	6	4.47	
11.29 Repair a HICS demi-valve assembly.						
N535 Install HICS demi-valve assemblies (DVAs)	3.22	4	8	6	5.34	
N562 Repair HICS DVAs	3.15	4	8	5	5.36	
12.30 Repair a fiber optic 2000M modem by card replacement.						
O625 Remove or replace fiber-optic modem printed circuit boards	4.88	4	2	3	5.70	

\* TE MEAN = 3.73 S.D. = 1.83 (High TE >= 5.56)

\*\* TD MEAN = 5.00 S.D. = 1.00

TABLE 23

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE  
AND NOT REFERENCED TO THE AFSC 2E632 CTS

TASKS	TNG EMP*	PERCENT MEMBERS PERFORMING			TASK DIFF**
		IST ENL (N=270)	DAFSC 2E652 (N=338)	DAFSC 2E672 (N=127)	
F141 Inventory equipment, tools, or supplies	4.61	40	60	49	3.21
F144 Maintain cable records, diagrams, or card files	4.68	20	28	20	5.02
F162 Sign for tools or test equipment	3.56	44	55	43	2.12
G175 Clean tools	4.32	93	76	46	2.04
G180 Complete cardiopulmonary resuscitation (CPR) certifications	6.46	71	63	44	4.67
G199 Inspect service trucks for tools, parts, or materials	4.78	76	62	39	3.55
G201 Load splicing materials on splicer's trucks	3.76	76	63	35	2.83
G208 Perform operator maintenance on general purpose or special purpose vehicles	5.34	61	73	46	3.70
G238 Transport vehicles, equipment, tools, or poles to job sites	4.32	75	62	40	3.68
H268 Install grounding rods	4.76	60	55	29	3.15
I314 Inspect aerial, buried, or underground cable installations	3.76	39	50	53	5.18
I320 Inspect completed work	4.15	46	66	54	5.33
I330 Inspect in-progress work	3.07	25	57	66	4.80
I337 Inspect splicing materials	3.71	54	55	43	3.90
I345 Inspect vehicles or special purpose equipment	4.12	56	64	47	4.11

\* TE MEAN = 3.73

S.D. = 1.83 (High TE &gt;= 5.56)

\*\* TD MEAN = 5.00

S.D. = 1.00



TABLE 24

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2E6X2  
TAFMS GROUPS IN CURRENT STUDY TO COMPARATIVE SAMPLE  
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS		97+ MONTHS	
	2E6X2 (N=270)	COMP SAMPLE (N=3,099)	2E6X2 (N=138)	COMP SAMPLE (N=2,781)	2E6X2 (N=310)	COMP SAMPLE (N=5,702)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	83	63	77	61	80	69
SO-SO	12	23	14	26	11	22
DULL	4	13	9	12	8	9
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	89	68	88	71	84	79
LITTLE OR NOT AT ALL	10	32	12	29	16	21
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY	91	87	89	84	83	80
LITTLE OR NOT AT ALL	9	11	11	14	16	18
<u>SENSE OF ACCOMPLISHMENT GAINED FROM WORK:</u>						
SATISFIED	84	67	79	68	74	73
NEUTRAL	7	17	9	15	9	11
DISSATISFIED	8	15	12	16	16	15
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	54	65	67	80	76	76
NO OR PROBABLY NO	46	34	33	19	9	6
WILL RETIRE	-	0	-	0.2	15	18

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

Comparative sample of Logistics career ladders surveyed in 1994. (Includes AFSCs 2A5X2, 2A6X4, 2A7X2, 2A7X4, 2E3X1, 2F0X1, and 2W1X1).

TABLE 25

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2E6X2  
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY  
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS		97+ MONTHS	
	1995 N=270	1991 N=273	1995 N=270	1991 N=273	1995 N=270	1991 N=273
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	83	83	77	87	80	85
SO-SO	12	10	14	5	11	10
DULL	4	5	9	5	8	4
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	89	86	88	93	84	90
LITTLE OR NOT AT ALL	10	13	12	5	16	9
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY	91	91	89	88	83	88
LITTLE OR NOT AT ALL	9	7	11	9	16	11
<u>SENSE OF ACCOMPLISHMENT GAINED FROM WORK:</u>						
SATISFIED	84	82	79	86	74	81
NEUTRAL	7	8	9	4	9	6
DISSATISFIED	8	7	12	8	16	11
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	54	54	67	69	76	80
NO OR PROBABLY NO	46	44	33	30	9	7
WILL RETIRE	-	1	-	1	15	13

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 26

COMPARISONS OF JOB SATISFACTION INDICATORS FOR MEMBERS OF SPECIALTY JOBS  
(PERCENT MEMBERS RESPONDING)

	CABLE INSTL/MNT JOB (N=523)	HICS INSTL/MNT JOB (N=33)	CABLE SUPPLY JOB (N=5)	SPVRSRY & MGMT CLUSTER (N=96)	QUALITY ASSRNC JOB (N=14)	HICS CABLE AFFRS JOB (N=5)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	82	55	60	83	93	100
SO-SO	12	21	20	9	7	-
DULL	5	24	20	6	-	-
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	89 10	76 24	80 20	85 15	100 -	80 20
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	94 7	90 9	80 20	79 20	93 7	40 60
<u>SENSE OF ACCOMPLISHMENT GAINED FROM WORK:</u>						
SATISFIED	83	61	60	76	86	100
NEUTRAL	7	15	20	8	7	-
DISSATISFIED	10	24	20	15	7	-
<u>REENLISTMENT INTENTIONS:</u>						
YES, OR PROBABLY YES	65	58	80	70	71	80
NO, OR PROBABLY NO	30	33	-	10	-	20
WILL RETIRE	10	9	20	20	29	-

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 26 (CONTINUED)

COMPARISONS OF JOB SATISFACTION INDICATORS BY SPECIALTY JOBS  
(PERCENT MEMBERS RESPONDING)

	MAINT CONTRL JOB (N=6)	QUALITY CONTRL JOB (N=6)	EI TEAM CHIEF JOB (N=6)	FIRST-LINE SUPERVISR JOB (N=30)	TRAINING MGMT JOB (N=7)	MAINT SUPRNTDNT JOB (N=11)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	100	67	83	93	100	45
SO-SO	-	17	17	7	-	-
DULL	-	17	-	-	-	45
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	83 17	50 50	100 -	100 -	100 -	36 55
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	83 17	67 33	100 -	90 7	86 14	36 55
<u>SENSE OF ACCOMPLISHMENT GAINED FROM WORK:</u>						
SATISFIED	83	67	83	80	100	55
NEUTRAL	-	-	-	17	-	-
DISSATISFIED	17	33	17	3	-	36
<u>REENLISTMENT INTENTIONS:</u>						
YES, OR PROBABLY YES	100	83	100	60	86	27
NO, OR PROBABLY NO	-	17	-	20	0	18
PLAN TO RETIRE	-	-	-	20	14	55

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

When there are serious problems in a career ladder, survey respondents are usually quite free with write-in comments to complain about perceived problems in the field. Eighteen percent of the survey sample used the write-in feature to convey some type of information. The majority of comments received included respondents providing job titles and job descriptions, as well as equipment that were not included in the equipment questions in the JI background section, as well as forms particular to specific commands.

## IMPLICATIONS

This survey was initiated on the Occupational Analysis 5-year cycle to provide current job and task data for use in evaluating the AFMAN 36-2108 *Specialty Description* and appropriate training documents

Survey results clearly indicate that the present classification structure, as described in the latest specialty description, accurately portrays the jobs performed in this career ladder. Career ladder training documents appear to be supported by survey data. However, due to the inability to match proficiency codes to the survey data, it is highly recommended that the CTS be reviewed by SMEs for more in-depth analysis.

As was pointed out in the **JOB SATISFACTION ANALYSIS** section, members of the Communications Cable Systems career ladder appear fairly satisfied with their jobs, and the job satisfaction indicators are about the same as in the previous (1991) survey.

APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED BY  
MEMBERS OF CAREER LADDER JOBS

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## CABLE INSTALLATION AND MAINTENANCE JOB (ST029)

TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

A1



## HICS INSTALLATION AND MAINTENANCE JOB (ST053)

TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

A2

TABLE III

## CABLE SUPPLY JOB (ST155)

GROUP SIZE: 5  
 PERCENT OF SAMPLE: <1%  
 PREDOMINANT GRADE: E-5/6  
 AVERAGE NUMBER OF TASKS PERFORMED: 39

AVERAGE TAFMS: 152 MONTHS  
 AVERAGE TICF: 81 MONTHS  
 PERCENT IN 1ST ENL: 46%

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

54% F Performing General Administrative and Supply Functions  
 12% A Organizing and Planning

## THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
F158 Research or initiate special supply requisitions	100.00
F157 Procure follow-up information on special supply requisitions	100.00
F143 Maintain bench stock or tool cribs	100.00
F142 Issue tools or test equipment	100.00
F141 Inventory equipment, tools, or supplies	100.00
F150 Maintain supply transaction listings or rosters, such as M30, D04, D18, or D19	100.00
B40 Review test equipment calibration schedules	100.00
F161 Schedule test equipment or special purpose tools for calibration	100.00
F164 Turn in tools or test equipment	100.00
F153 Prepare requests for issue or turn-in of equipment, tools, or supplies	100.00
F162 Sign for tools or test equipment	100.00
A9 Establish bench stock levels	100.00
F148 Maintain property custodian authorization/custody receipt listings (CA/CRLs)	80.00
F152 Prepare excess project materials for turn-in	80.00
F146 Maintain equipment calibration records	80.00
C57 Evaluate procedures for storage, inventory, or inspection of tools or equipment	80.00
F155 Process damaged tools for replacement	80.00
A7 Determine logistics requirements, such as personnel, space, equipment, or supplies	80.00
C69 Review equipment authorization lists	60.00
F134 Initiate requests for shipment of tools or equipment	60.00
F163 Turn in excess project materials	60.00
A8 Draft budget requirements	60.00
F154 Complete documents for transfer or accountability of military real property	60.00
A6 Coordinate transportation requirements with motor pool or transportation management offices (TMOs)	60.00

TABLE IV

## SUPERVISORY AND MANAGEMENT CLUSTER (ST014)

GROUP SIZE: 96  
 PERCENT OF SAMPLE: 13%  
 PREDOMINANT GRADE: E-7  
 AVERAGE NUMBER OF TASKS PERFORMED: 58

AVERAGE TAFMS: 181 MONTHS  
 AVERAGE TICF: 146 MONTHS  
 PERCENT IN 1ST ENL: 46%

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

20% C Inspecting and Evaluating  
 18% A Organizing and Planning

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS  
 PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
A16 Plan or schedule work assignments or priorities	72.92
B30 Counsel personnel on personal or military-related matters	67.71
C72 Write EPRs	67.71
C55 Evaluate personnel for compliance with work or performance standards	65.62
A19 Review lists of materials, project drawings, or project specifications	65.62
C49 Conduct performance feedback worksheet (PFW) evaluation sessions	64.58
C58 Evaluate project drawings or specifications	63.54
B39 Interpret policies, directives, or procedures for subordinates	62.50
A12 Establish performance standards for subordinates	60.42
C56 Evaluate personnel for promotion, demotion, reclassification, or special awards	56.25
A13 Establish work methods or controls	56.25
A3 Coordinate communication requirements with customers	55.21
A4 Coordinate installation of cable, antenna, or inside plant projects with using organizations	55.21
C52 Evaluate inspection report findings	54.17
B27 Conduct safety briefings	54.17
A7 Determine logistics requirements, such as personnel, space, equipment, or supplies	53.12
D81 Counsel trainees on training progress	53.12
B28 Conduct supervisory orientations of newly assigned personnel	53.12
I330 Inspect in-progress work	52.08
B29 Conduct team briefings or debriefings, other than safety briefings	50.00
A14 Plan cable installations, modifications, removals, or rehabilitations	50.00
A1 Assign personnel to duty positions	50.00
F140 Interpret CIRS records or CSIRs	48.96
F137 Input data using computer terminals	47.92
A23 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	47.92
B43 Supervise Communications Cable Systems Journeymen (AFSC 2E652)	46.88

## QUALITY ASSURANCE JOB (ST088)

### TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

A5

TABLE IVB

## HICS CABLE AFFAIRS JOB (ST140)

GROUP SIZE: 5  
 PERCENT OF SAMPLE: 5%  
 PREDOMINANT GRADE: E-4  
 AVERAGE NUMBER OF TASKS PERFORMED: 51

AVERAGE TAFMS: 132 MONTHS

AVERAGE TICF: 100 MONTHS

PERCENT IN 1ST ENL: 46%

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

40% F Performing General Administrative and Supply Functions  
 12% C Inspecting and Evaluating

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS  
 PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
F137 Input data using computer terminals	100.00
F121 Annotate communications-computer systems installation records (CSIRs)	100.00
F140 Interpret CIRS records or CSIRs	100.00
F120 Annotate circuit identification and recording system (CIRS) records	100.00
F138 Interpret cable splicing diagrams	100.00
F139 Interpret cable transfer worksheets or cutsheets	100.00
F144 Maintain cable records, diagrams, or card files	100.00
F129 Initiate cable location and identification procedures	80.00
F122 Annotate or complete cable transfer worksheets or cutsheets	80.00
I326 Inspect HICS cables for hardness integrity	80.00
C68 Perform aerial fly-over inspections or surveys	80.00
F126 Coordinate cable installation or maintenance with contractors	80.00
B32 Direct maintenance of administrative files	80.00
F165 Update or annotate engineering or installation drawings, such as built or as installed	80.00
C58 Evaluate project drawings or specifications	80.00
I330 Inspect in-progress work	80.00
F149 Maintain publication files or publication reading files, other than TO files	80.00
D96 Plan or schedule training	80.00
A16 Plan or schedule work assignments or priorities	80.00
D77 Conduct OJT	80.00
A13 Establish work methods or controls	80.00
A8 Draft budget requirements	80.00
N541 Locate buried HICS cable routes	60.00
C50 Evaluate administrative files or procedures	60.00
J380 Mark buried cable paths	60.00
F125 Conduct reviews of engineered project directives	60.00
I320 Inspect completed work	60.00
A19 Review lists of materials, project drawings, or project specifications	60.00

TABLE IVC

## MAINTENANCE CONTROL JOB (ST068)

GROUP SIZE: 6  
 PERCENT OF SAMPLE: 6%  
 PREDOMINANT GRADE: E-5/6  
 AVERAGE NUMBER OF TASKS PERFORMED: 23

AVERAGE TAFMS: 134 MONTHS  
 AVERAGE TICF: 120 MONTHS  
 PERCENT IN 1ST ENL: 46%

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

33% A Organizing and Planning  
 29% F Performing General Administrative and Supply Functions

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS  
 PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
A3 Coordinate communication requirements with customers	100.00
C58 Evaluate project drawings or specifications	100.00
A19 Review lists of materials, project drawings, or project specifications	100.00
A4 Coordinate installation of cable, antenna, or inside plant projects with using organizations	83.33
F140 Interpret CIRS records or CSIRs	83.33
F138 Interpret cable splicing diagrams	83.33
F137 Input data using computer terminals	66.67
A14 Plan cable installations, modifications, removals, or rehabilitations	66.67
A10 Establish customer survey procedures or follow-ups	66.67
F136 Initiate travel order requests	66.67
F125 Conduct reviews of engineered project directives	50.00
E113 Coordinate project or special project requirements with engineering activities	50.00
A16 Plan or schedule work assignments or priorities	50.00
F121 Annotate communications-computer systems installation records (CSIRs)	50.00
F126 Coordinate cable installation or maintenance with contractors	50.00
G180 Complete cardiopulmonary resuscitation (CPR) certifications	50.00
B34 Implement cost-reduction programs	50.00
A7 Determine logistics requirements, such as personnel, space, equipment, or supplies	33.33
I320 Inspect completed work	33.33
B35 Implement customer request procedures	33.33
B31 Direct development or maintenance of status indicators, such as boards, graphs, or charts	33.33
A8 Draft budget requirements	33.33
F130 Initiate engineering change request/authorizations (ECR/As)	33.33
B37 Implement suggestion programs	33.33

TABLE IVD

## QUALITY CONTROL JOB (ST197)

GROUP SIZE: 6  
 PERCENT OF SAMPLE: 6%  
 PREDOMINANT GRADE: E-6  
 AVERAGE NUMBER OF TASKS PERFORMED: 82

AVERAGE TAFMS: 140 MONTHS  
 AVERAGE TICF: 101 MONTHS  
 PERCENT IN 1ST ENL: 46%

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

28% C Inspecting and Evaluating  
 24% I Inspecting Cables and Associated Equipment

## THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
C63 Identify problem areas using deficiency or service reports	100.00
A20 Schedule equipment or facility inspections	100.00
C54 Evaluate or review staff studies, surveys, or special reports, such as maintenance reports	100.00
I315 Inspect cable air dryers or flow panels	100.00
I330 Inspect in-progress work	100.00
C50 Evaluate administrative files or procedures	100.00
I321 Inspect emergency safety equipment	100.00
B32 Direct maintenance of administrative files	100.00
A12 Establish performance standards for subordinates	100.00
D81 Counsel trainees on training progress	100.00
B28 Conduct supervisory orientations of newly assigned personnel	100.00
B45 Supervise military personnel with AFSCs other than 2E6X2	83.33
C73 Write staff studies, surveys, or special reports, other than training reports	83.33
I320 Inspect completed work	83.33
C59 Evaluate safety or security programs	83.33
B31 Direct development or maintenance of status indicators, such as boards, graphs, or charts	83.33
D77 Conduct OJT	83.33
I317 Inspect cables and associated equipment for evidences of corrosion	83.33
C49 Conduct performance feedback worksheet (PFW) evaluation sessions	83.33
D95 Monitor effectiveness of upgrade training, such as career knowledge, job proficiency, or qualification training knowledge, job proficiency, service, or status reports	83.33
F132 Initiate or complete deficiency, service, or status reports	83.33
I324 Inspect grounding or bonding devices, other than HICS	83.33
C46 Analyze recurring troubles on equipment identified by deficiency or service reports	83.33
A13 Establish work methods or controls	83.33

TABLE IVE

## EI TEAM CHIEF JOB (ST257)

GROUP SIZE: 6 AVERAGE TAFMS: 157 MONTHS  
 PERCENT OF SAMPLE: 6% AVERAGE TICF: 134 MONTHS  
 PREDOMINANT GRADE: E-5/6 PERCENT IN 1ST ENL: 46%  
 AVERAGE NUMBER OF TASKS PERFORMED: 84

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

22% F Performing General Administrative and Supply Functions  
 16% A Organizing and Planning

## THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
F163 Turn in excess project materials	100.00
E102 Complete daily documentation of job logs, summaries, project drawings, or man-hour utilization data	100.00
A7 Determine logistics requirements, such as personnel, space, equipment, or supplies	100.00
F141 Inventory equipment, tools, or supplies	100.00
C55 Evaluate personnel for compliance with work or performance standards	100.00
E103 Conduct & document final project acceptance inspections w/quality assurance evaluators or base quality control inspectors	100.00
C49 Conduct performance feedback worksheet (PFW) evaluation sessions	100.00
E117 Plan or implement deployment actions, such as obtaining team support, billeting, transportation, or messing facilities	100.00
F130 Initiate engineering change request/authorizations (ECR/As)	100.00
A18 Procure travel arrangements for installation or maintenance teams	100.00
D77 Conduct OJT	100.00
C72 Write EPRs	100.00
A5 Coordinate rental of special purpose equipment with base procurement	100.00
A13 Establish work methods or controls	83.33
A4 Coordinate installation of cable, antenna, or inside plant projects with using organizations	83.33
B30 Counsel personnel on personal or military-related matters	83.33
E118 Plan or implement post-deployment actions	83.33
F164 Turn in tools or test equipment	83.33
E112 Coordinate or procure host-base support with appropriate personnel, such as logistic support	83.33
F124 Complete communication acceptance actions, such as commissioning and removal certificate	83.33
G241 Withdraw project materials from storage	83.33
E111 Coordinate logistical support for work projects with customers	83.33



TABLE IVF

## FIRST-LINE SUPERVISOR JOB (ST173)

GROUP SIZE: 30  
 PERCENT OF SAMPLE: 31%  
 PREDOMINANT GRADE: E-7  
 AVERAGE NUMBER OF TASKS PERFORMED: 87

AVERAGE TAFMS: 212 MONTHS  
 AVERAGE TICF: 172 MONTHS  
 PERCENT IN 1ST ENL: 46%

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

25% A Organizing and Planning  
 24% C Inspecting and Evaluating

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS  
 PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
A12 Establish performance standards for subordinates	100.00
B39 Interpret policies, directives, or procedures for subordinates	96.67
A2 Assign sponsors for newly assigned personnel	96.67
C72 Write EPRs	93.33
A23 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	93.33
C56 Evaluate personnel for promotion, demotion, reclassification, or special awards	93.33
A1 Assign personnel to duty positions	93.33
A3 Coordinate communication requirements with customers	90.00
C58 Evaluate project drawings or specifications	90.00
C65 Indorse enlisted performance reports (EPRs)	86.67
C55 Evaluate personnel for compliance with work or performance standards	86.67
A14 Plan cable installations, modifications, removals, or rehabilitations	86.67
B27 Conduct safety briefings	86.67
D81 Counsel trainees on training progress	86.67
C47 Analyze workload requirements	83.33
A13 Establish work methods or controls	83.33
D82 Determine training requirements	83.33
C70 Select personnel for specialized training	83.33
C62 Evaluate work schedules	80.00
C60 Evaluate suggestions, requests, or complaints	80.00
B44 Supervise Communications Cable Systems Craftsmen (AFSC 2E672)	76.67
B29 Conduct team briefings or debriefings, other than safety briefings	76.67
C66 Inspect shop maintenance actions	76.67
D89 Evaluate progress of trainees	76.67
C52 Evaluate inspection report findings	76.67
B38 Implement work methods or inspection procedures	76.67
C57 Evaluate procedures for storage, inventory, or inspection of tools or equipment	76.67

## TRAINING MANAGEMENT JOB (ST096)

### TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

A11

TABLE IVH

## MAINTENANCE SUPERINTENDENT JOB (ST074)

GROUP SIZE: 11 AVERAGE TAFMS: 206 MONTHS  
 PERCENT OF SAMPLE: 11% AVERAGE TICF: 150 MONTHS  
 PREDOMINANT GRADE: E-7 PERCENT IN 1ST ENL: 46%  
 AVERAGE NUMBER OF TASKS PERFORMED: 29

## TOP DUTIES (AVERAGE PERCENT TIME SPENT BY ALL MEMBERS)

41% C Inspecting and Evaluating  
 22% A Organizing and Planning

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS  
 PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
C72 Write EPRs	100.00
C49 Conduct performance feedback worksheet (PFW) evaluation sessions	100.00
B30 Counsel personnel on personal or military-related matters	90.91
C55 Evaluate personnel for compliance with work or performance standards	90.91
C65 Indorse enlisted performance reports (EPRs)	81.82
C56 Evaluate personnel for promotion, demotion, reclassification, or special awards	81.82
B39 Interpret policies, directives, or procedures for subordinates	72.73
A12 Establish performance standards for subordinates	72.73
A16 Plan or schedule work assignments or priorities	72.73
C60 Evaluate suggestions, requests, or complaints	63.64
A13 Establish work methods or controls	63.64
C54 Evaluate or review staff studies, surveys, or special reports, such as maintenance reports	54.55
C62 Evaluate work schedules	54.55
A7 Determine logistics requirements, such as personnel, space, equipment, or supplies	54.55
C53 Evaluate maintenance or use of workspace, equipment, or supplies	54.55
B44 Supervise Communications Cable Systems Craftsmen (AFSC 2E672)	45.45
C47 Analyze workload requirements	45.45
A3 Coordinate communication requirements with customers	45.45
C52 Evaluate inspection report findings	45.45
A23 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	45.45
A24 Write job or position descriptions	45.45
B28 Conduct supervisory orientations of newly assigned personnel	45.45
A1 Assign personnel to duty positions	45.45

APPENDIX B

LISTING OF MODULES AND TASK STATEMENTS

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These task modules (TMs) were developed to illustrate the content of jobs by summarizing tasks performed in common by incumbents across the Communications Cable Systems career ladder. These TMs were derived by statistical clustering process in CODAP that identifies groups of related tasks and groups them together to form TMs. The process for identifying these related tasks is called copformance. Copformance assumes that if incumbents perform Task A and Task B, there is a high likelihood that these two tasks share common skills and knowledge and can be trained together. For example, if an individual performs one communications cable maintenance task, the probability is very high that he or she will also perform other cable maintenance tasks. Thus, the group of maintenance tasks can be considered a "natural group" of associated or related tasks (see TM 0001) below. CODAP calculates an index of co-performance for each task with every other task by examining the task performance patterns of all the survey respondents as a whole. The statistical clustering generally approximated these "natural groupings."

The title of each TM is our best estimate as to the general subject content of the group of tasks. These TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

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0001    Maintain vehicles, equipment

---

- |   |      |  |
|---|------|--|
| 1 | G169 | Backfill cable splicing pits or cable trenches using handtools                         |
| 2 | G175 | Clean tools  |
| 3 | G180 | Complete cardiopulmonary resuscitation (CPR) certifications                            |
| 4 | G187 | Direct operation of trucks or winches  |
| 5 | G207 | Perform corrosion control or treatment procedures on cable systems, vehicles, or tools |
| 6 | G208 | Perform operator maintenance on general purpose or special purpose vehicles            |
| 7 | G238 | Transport vehicles, equipment, tools, or poles to job sites                            |
| 8 | I345 | Inspect vehicles or special purpose equipment  |
- 

0002    Prepare, install cables

---

- |    |      |   |
|----|------|---|
| 1  | G173 | Clean manholes  |
| 2  | G174 | Clean splicing pits   |
| 3  | G189 | Erect barriers or manhole guards around open trenches or pits       |
| 4  | G192 | Excavate cable trenches   |
| 5  | G195 | Excavate splicing pits or cable trenches using handtools            |
| 6  | G196 | Form cables in subterranean structures by hand                      |
| 7  | G199 | Inspect service trucks for tools, parts, or materials               |
| 8  | G201 | Load splicing materials on splicer's trucks                         |
| 9  | G202 | Load or unload cable reels on trailers                              |
| 10 | G216 | Rack cables in subterranean structures                              |
| 11 | G219 | Remove or replace manhole covers                                    |
| 12 | G222 | Rod cable conduits  |
| 13 | G225 | Select and position traffic warning devices required for work areas |
| 14 | G226 | Set up buried cables for splicing                                   |
| 15 | G227 | Set up manhole ladders  |
| 16 | G229 | Set up or position cable reels                                      |
| 17 | G230 | Set up or prepare cable sections for splicing                       |
| 18 | G237 | Test subterranean atmospheres for environmental or safety hazards   |

0002	Prepare, install cables (Continued)	
19	G239	Ventilate subterranean structures
20	H243	Bury cables using open trench method
21	H254	Install buried cables
0003	Detect cable faults	
1	J351	Detect cable faults using multimeters
2	J352	Detect cable faults using splicer's headsets
3	J354	Detect splicer's errors using multimeters
4	J355	Detect splicer's errors using splicer's headsets
5	J358	Establish talking circuits
0004	Install cable components	
1	H277	Install punch-on terminals or housings
2	H303	Stencil terminals
3	H304	Tag cables or splices
4	H305	Tag terminals
5	H311	Terminate punch-on terminals
6	K398	Bridge-splice plastic-sheathed plastic insulated cables
7	K402	Butt-splice plastic-sheathed plastic insulated cables
8	K404	Clear cap conductors
9	K410	Perform permanent-bond of cable shields
10	K411	Perform temporary-bond of cable shields
11	K417	Seal cable ends using cable-end caps
12	K424	Splice filled cables
13	K434	Straight-splice plastic-sheathed plastic insulated cables
14	L442	Install splice cases
15	L445	Perform temporary or emergency splice seals using cured rubber (CR) tape
16	L464	Seal splices with reenterable compounds
0005	Install subterranean cables	
1	G198	Form cables in subterranean structures using cable jacks
2	G228	Set up or position cable pulling apparatus
3	H242	Bond cables in subterranean structures
4	H253	Install bonding ribbons in subterranean structures
5	H255	Install buried distribution (BD) terminals or housings
6	H257	Install cable racks or hooks in manholes, vaults, or distribution points
7	H268	Install grounding rods
8	H275	Install or remove underground copper-core cables
9	H297	Prepare core hitches to pull in cable
10	H307	Terminate BD terminals
11	H308	Terminate cables using mechanical techniques
12	K416	Remove or replace underground copper-core cables

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0006 Backfill cable trenches

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- 1 G170 Backfill cable trenches using backhoes
  - 2 G171 Backfill cable trenches using trenching equipment
  - 3 G194 Excavate splicing pits or cable trenches using backhoes
- 

0007 Locate buried cables

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- 1 J357 Determine depth of buried cables, pipes, or other components
  - 2 J375 Locate buried cable routes using test equipment, other than HICS
  - 3 J380 Mark buried cable paths
- 

0008 Identify cable conductors

---

- 1 J349 Detect cable faults using cable fault locators
  - 2 J356 Detect splicer's errors using tone sets
  - 3 J360 Identify conductors in nonworking cables using multimeters
  - 4 J361 Identify conductors in nonworking cables using splicer's headsets
  - 5 J362 Identify conductors in nonworking cables using tone sets
  - 6 J364 Identify conductors in working cables using headset, capacitors and batteries
  - 7 J365 Identify conductors in working cables using multimeters
  - 8 J366 Identify conductors in working cables using splicer's headsets
  - 9 J367 Identify conductors in working cables using tone sets
  - 10 J373 Locate cable faults using time domain reflectometers (TDRs)
- 

0009 Perform cable section throws

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- 1 K406 Half-tap splice conductors in general cables
  - 2 K407 Perform cable count changes
  - 3 K408 Perform cable transfers
  - 4 K409 Perform nonworking cable section throws
  - 5 K412 Perform working cable section throws
- 

0010 Inspect cable work and equipment

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- 1 I314 Inspect aerial, buried, or underground cable installations
- 2 I317 Inspect cables and associated equipment for evidences of corrosion
- 3 I320 Inspect completed work
- 4 I324 Inspect grounding or bonding devices, other than HICS
- 5 I325 Inspect hand or special purpose tools
- 6 I330 Inspect in-progress work
- 7 I337 Inspect splicing materials
- 8 I338 Inspect splicing pits
- 9 I340 Inspect subterranean structures, such as cable vaults, handholes, or manholes
- 10 I342 Inspect terminals
- 11 I343 Inspect test equipment
- 12 I347 Inspect work areas



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0011 Inventory equipment

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- 1 F141 Inventory equipment, tools, or supplies
  - 2 F162 Sign for tools or test equipment
  - 3 F164 Turn in tools or test equipment
- 

0012 Waterproof buried cables

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- 1 G193 Excavate cables, other than hardened intersite cable systems (HICS)
  - 2 G203 Load or unload dry storage materials
  - 3 G205 Maintain stored cables, other than in HICS cable yards
  - 4 G206 Perform buried cable plant protection procedures
  - 5 G215 Perform water entrance prevention procedures
  - 6 H276 Install pulling-in wires
- 

0013 Maintain cable equipment

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- 1 G209 Perform operator maintenance on generators
  - 2 G210 Perform operator maintenance on heaters
  - 3 G211 Perform operator maintenance on portable atmosphere testing equipment
  - 4 G212 Perform operator maintenance on test equip, such as cleaning or battery replacement, other than portable atmosphere testing equipment
  - 5 G213 Perform operator maintenance on water pumps
- 

0014 Locate cable faults

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- 1 J359 Identify conductors in cables having special circuits
  - 2 J371 Locate cable faults using fault locators
  - 3 J372 Locate cable faults using open fault locators
  - 4 J374 Locate cable faults using tone sets
  - 5 J377 Locate splicer's errors using open fault locators
  - 6 J378 Locate splicer's errors using TDRs
  - 7 J379 Locate unmarked splices, other than HICS
- 

0015 Test pressure regulators

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- 1 G234 Test acetylene pressure regulators for pressure leakage
  - 2 G235 Test nitrogen pressure regulators for pressure leakage
  - 3 G236 Test propane pressure regulators for pressure leakage
- 

0016 Perform preventive maintenance

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- 1 I315 Inspect cable air dryers or flow panels
  - 2 M469 Adjust cable air dryers humidity alarms
  - 3 M470 Adjust cable air dryers output pressure
  - 4 M472 Maintain or clean cable air dryers
  - 5 M506 Perform operational checks of cable air dryers
  - 6 M509 Perform preventive maintenance inspections on cable air dryer assemblies
  - 7 M516 Repair or rebuild cable air dryers
-

0017 Perform rescue/retrieval actions		
1	G167	Assemble or disassemble manhole retrieval system harnesses
2	G168	Assemble or disassemble manhole retrieval systems
3	G197	Form cables in subterranean structures using bending springs
4	G214	Perform rescue procedures for extended heights, subterranean structures, or livewire equipment
5	G221	Report ground accidents
6	H267	Install exothermic bonds or welds
0018 Install terminals		
1	H262	Install cross-connect terminals on buried cable systems
2	H263	Install cross-connect terminals on underground cable systems
3	H266	Install distribution terminals
4	H279	Install ready-access terminals
0019 Remove/replace fiber optic cables		
1	O586	Install fiber-optic cables underground using one-direction machine-pull method
2	O588	Install fiber-optic cables underground using two-direction machine-pull method
3	O604	Locate buried fiber-optic cable splices or routes
4	O605	Locate shielded buried fiber-optic cables
5	O606	Machine polish fibers within fiber-optic connectors
6	O611	Place or operate fiber-optics splicing trailers
7	O621	Remove or replace fiber-optic breakout cables using fusion method
8	O622	Remove or replace fiber-optic breakout cables using mechanical method
9	O624	Remove or replace fiber-optic cross-connect panels
10	O633	Splice fiber-optic stranded cables using fusion method
11	O634	Splice fiber-optic stranded cables using mechanical method
0020 Inspect cable equipment		
1	I321	Inspect emergency safety equipment
2	I322	Inspect fiber-optic cable systems, such as modems, cables, T-carriers, or repeaters
3	I323	Inspect general aerial, buried, or underground communications electronics or meteorological (CEM) cable splices
4	I332	Inspect MDF protector sections
5	I333	Inspect MDFs
6	I344	Inspect training mockups
0021 Install office protectors		
1	H292	Install unstubbed central office protectors
2	H300	Secure cables to MDFs using lacing twine
0022 Install aerial cable systems		
1	G200	Load lashing machines
2	H247	Install aerial cable systems
3	H248	Install aerial copper-core cables
4	H249	Install aerial terminals or housings

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0022    Install aerial cable systems (Continued)

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5	H261	Install cross-connect terminals on aerial cable systems
6	H270	Install lashing-wire clamps
7	H274	Install or remove suspension strands
8	H294	Lash cables to suspension strands
9	H298	Remove or replace aerial copper-core cables
10	H306	Terminate aerial terminals
11	I341	Inspect suspension strands
12	K421	Set up aerial cables for splicing

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0023    Install, remove telephone poles

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1	H245	Dig holes for telephone poles
2	H288	Install telephone poles
3	H299	Remove telephone poles

---

0024    Perform, record cable tests

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1	J383	Perform and record capacitance unbalance tests
2	J384	Perform and record frequency response tests
3	J385	Perform and record idle channel noise tests
4	J386	Perform and record impulse noise tests
5	J389	Perform and record meteorological cable tests
6	J391	Perform and record pre-installation pressure tests
7	J392	Perform and record unbalance resistance tests
8	J393	Perform and record station ground resistance tests

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0025    Maintain 13A or 14A splice cases

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1	L444	Maintain 13A- or 14A-series splice cases
2	L447	Perform temporary or emergency splice seals using zipper closures
3	L451	Remove 13A- or 14A-series splice cases

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0026    Splice audiovisual cables

---

1	K422	Splice cable television (CATV) cables
2	K427	Splice sensor cables
3	K428	Splice T-screen-type cables
4	K429	Splice video cables
5	K430	Splice-in capacitors

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0027    Operate pressure transmitters

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1	M468	Adjust base cable pressure transmitters
2	M479	Determine or detect locations of operated pressure transmitters
3	M497	Install pressure transmitters
4	M508	Perform operational checks of pressure transmitters
5	M515	Remove or replace pressure transmitters

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0028	Correct pressure readings	
1	M473	Correct pressure readings using altitude
2	M474	Correct pressure readings using atmosphere
3	M475	Correct pressure readings using pneumatic resistance
4	M476	Correct pressure readings using temperature
0029	Operate fiber-optic repeaters	
1	O602	Isolate malfunctions within fiber-optic repeaters
2	O628	Remove or replace fiber-optic repeaters
0030	Coordinate cable installations	
1	A3	Coordinate communication requirements with customers
2	A4	Coordinate installation of cable, antenna, or inside plant projects with using organizations
3	A7	Determine logistics requirements, such as personnel, space, equipment, or supplies
4	A14	Plan cable installations, modifications, removals, or rehabilitations
5	A19	Review lists of materials, project drawings, or project specifications
6	C58	Evaluate project drawings or specifications
0031	Conduct, evaluate training	
1	D77	Conduct OJT
2	D81	Counsel trainees on training progress
3	D89	Evaluate progress of trainees
0032	Evaluate, counsel personnel	
1	A12	Establish performance standards for subordinates
2	B30	Counsel personnel on personal or military-related matters
3	C49	Conduct performance feedback worksheet (PFW) evaluation sessions
4	C55	Evaluate personnel for compliance with work or performance standards
5	C72	Write EPRs
0033	Conduct customer satisfaction programs	
1	A10	Establish customer survey procedures or follow-ups
2	B34	Implement cost-reduction programs
3	B35	Implement customer request procedures
4	B37	Implement suggestion programs
0034	Maintain cable supplies	
1	A9	Establish bench stock levels
2	F142	Issue tools or test equipment
3	F143	Maintain bench stock or tool cribs
4	F148	Maintain property custodian authorization/custody receipt listings (CA/CRLs)
5	F150	Maintain supply transaction listings or rosters, such as M30, D04, D18, or D19

0034	Maintain cable supplies (Continued)	
6	F153	Prepare requests for issue or turn-in of equipment, tools, or supplies
7	F157	Procure follow-up information on special supply requisitions
8	F158	Research or initiate special supply requisitions
0035	Locate HICS cable maint sites	
1	G204	Load or unload poles
2	N541	Locate buried HICS cable routes
3	N557	Remove or replace HICS line-of-sight and splice marker poles
0036	Inspect HICS cables	
1	I326	Inspect HICS cables for hardness integrity
2	I327	Inspect HICS cable yard manifold pressure systems
3	I328	Inspect HICS grounding or sealing devices
4	I329	Inspect HICS splices
0037	Maintain HICS cable components	
1	N523	Band HICS line-of-sight and splice marker poles
2	N536	Install HICS line-of-site and splice marker poles
3	N542	Maintain aerospace techniques incorporated (ATI) splice cases
4	N545	Seal terminal splice cases in HICS cables
0038	Repair HICS cables	
1	N553	Place directional markers on HICS line-of-sight and splice marker poles
2	N561	Repair damage or defects in HICS cables
3	N562	Repair HICS DVAs
0039	Prepare cable maint sites	
1	G172	Clean cable conduits
2	G188	Direct traffic at work areas
3	G240	Withdraw materials from bench stock
4	G241	Withdraw project materials from storage
5	H258	Install cable route signs, pole markers, or identification plates
6	J369	Identify or locate severed cables
0040	Seal, splice cables	
1	K418	Seal cable ends using encapsulating method
2	K419	Seal cable ends using splice cases
3	K423	Splice cables using modular method
4	L438	Fabricate end plates
5	L439	Flash test sealed splices
6	L460	Seal cables using closure method
7	L466	Wrap cable splices with muslin or plastic

0041	Above ground cable work	
1	G176	Climb or work aloft on ladders
2	G190	Erect ladders, other than manhole ladders
3	G223	Complete base civil engineering (BCE) work clearance permits
0042	GP0004 - Perform, record cable tests	
1	H296	Prepare cable grips to pull in cable
2	H310	Terminate cables using wire wrap techniques
3	J381	Measure currents, resistances, or voltages
4	J382	Perform and record cable length tests
5	J387	Perform and record insulation resistance tests
6	J388	Perform and record loop resistance tests
0043	Remove/replace splice cases	
1	G220	Remove or replace secured manhole covers
2	G232	Shore or brace cable splicing pits
3	L450	Remove or replace splice cases, other than 13A- or 14A-series
4	L454	Repair damage or defects in plastic cables using tape-wrap method, other than HICS
0044	Install fiber-optic cables	
1	H273	Install local area network (LAN) cables and associated hardware
2	O568	Connect fiber-optic cables to splicer support shelves or patch panels
3	O583	Install fiber-optic cable innerducts
4	O585	Install fiber-optic cables underground using one-direction hand-pull method
5	O607	Off reel fiber-optic cables in figure-8 loops
0045	Use OTDRs	
1	O569	Determine attenuation using optical power multimeters
2	O570	Determine attenuation using optical time domain reflectometers (OTDRs)
3	O573	Determine distances using OTDRs
4	O575	Determine splice losses using OTDRs
0046	Prepare fiber-optic cables for splicing	
1	O576	Fusion splice multimode fibers
2	O577	Fusion splice single-mode fibers
3	O593	Install fiber-optic splice closures
4	O609	Perform splice point set-up procedures, such as prerack fiber-optic cables
5	O614	Prepare fiber-optic cables for splice-tray configurations
6	O615	Prepare loose-tube fiber-optic cables for splicing
7	O616	Prepare metallic-shielded optical cables for splicing
8	O617	Prepare nonmetallic-shielded optical cables for splicing
9	O618	Prepare single-sheath fiber-optic cables for splicing
10	O619	Prepare tight-tube fiber-optic cables for splicing
11	O635	Terminate fiber-optic strength members

0047	Install fiber-optic connectors	
1	O571	Determine connector losses using optical power multimeter single-meter method
2	O572	Determine connector losses using optical power multimeter two-meter method
3	O578	Hand polish fibers in fiber-optic connectors
4	O582	Install buried fiber-optic cables using trenching method
5	O587	Install fiber-optic cables underground using two-direction hand-pull method
6	O589	Install fiber-optic crimped connectors
7	O590	Install fiber-optic epoxy connectors
0048	Operate, maintain fiber-optic cables	
1	O567	Connect fiber-optic cables to modems
2	O574	Determine maximum pulling tension in fiber-optic cables
3	O601	Isolate malfunctions within fiber-optic cables
4	O608	Operate fiber-optic voice communication sets
5	O610	Place or prepare fiber-optics cable reel trucks
6	O613	Prepare double-sheath fiber-optic cables for splicing
7	O620	Prepare water resistant optical cables for splicing
8	O627	Remove or replace fiber-optic patch panels
0049	Plan, organize cable instal, maint	
1	F121	Annotate communications-computer systems installation records (CSIRs)
2	F126	Coordinate cable installation or maintenance with contractors
3	F129	Initiate cable location and identification procedures
4	F138	Interpret cable splicing diagrams
5	F140	Interpret CIRS records or CSIRs
0050	Maint cable records, files	
1	F120	Annotate circuit identification and recording system (CIRS) records
2	F122	Annotate or complete cable transfer worksheets or cutsheets
3	F137	Input data using computer terminals
4	F139	Interpret cable transfer worksheets or cutsheets
5	F144	Maintain cable records, diagrams, or card files
6	F159	Research technical publications to locate desired information, such as specifications or instructions
7	F165	Update or annotate engineering or installation drawings, such as as-built or as-installed
0051	Coordinate safety procedures	
1	G183	Coordinate downtime for critical circuits prior to beginning work
2	G185	Coordinate requests for work in confined spaces with base safety offices
0052	Dry splices	
1	L435	Dry splices using desiccants
2	L436	Dry splices using dry-heat method
3	L437	Dry splices using purging method

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0053    Repair/remove/replace sleeves

---

- |   |      |  |
|---|------|--|
| 1 | K420 | Seal lead cable ends using torch and solder methods                          |
| 2 | L440 | Install lead wedges, disks, or end plates                                    |
| 3 | L446 | Perform temporary or emergency splice seals using rubber bandages            |
| 4 | L448 | Remove or replace auxiliary sleeves  |
| 5 | L449 | Remove or replace lead sleeves   |
| 6 | L452 | Repair auxiliary sleeves using solder method                                 |
| 7 | L453 | Repair auxiliary sleeves using tape-wrap method                              |
| 8 | L456 | Repair damage or defects to lead-cable sheaths using torch and solder method |
| 9 | L457 | Repair lead sleeves  |
- 

0054    Seal cables, joints, sleeves

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- |   |      |   |
|---|------|---|
| 1 | L459 | Seal cables using auxiliary-sleeve method |
| 2 | L461 | Seal cables using lead-sleeve method      |
| 3 | L462 | Seal joints using torch methods           |
| 4 | L465 | Seal split-lead sleeves                   |
- 

0055    Splice insulated conductors

---

- |   |      |  |
|---|------|--|
| 1 | K396 | Bridge-splice plastic-insulated conductors to paper-insulated conductor cables   |
| 2 | K397 | Bridge-splice plastic-sheathed paper-insulated cables                            |
| 3 | K400 | Butt-splice plastic-insulated conductors to paper-insulated conductor cables     |
| 4 | K401 | Butt-splice plastic-sheathed paper-insulated cables                              |
| 5 | K432 | Straight-splice plastic-insulated conductors to paper-insulated conductor cables |
| 6 | K433 | Straight-splice plastic-sheathed paper-insulated cables                          |
- 

0056    Inspect cable pressure

---

- |    |      |   |
|----|------|---|
| 1  | I331 | Inspect installed cable pressure system equipment or components |
| 2  | M471 | Charge pressure cable systems                                   |
| 3  | M485 | Install heatless cable air dryers                               |
| 4  | M498 | Install pressure valves   |
| 5  | M501 | Interpret meter-panel readings                                  |
| 6  | M502 | Isolate malfunctions within cable air dryer components          |
| 7  | M503 | Locate pressure leaks using flash-test method                   |
| 8  | M505 | Locate pressure leaks using gradients                           |
| 9  | M511 | Record air flow consumption                                     |
| 10 | M513 | Remove or replace cable air dryers                              |
| 11 | M517 | Take periodic pressure readings                                 |
| 12 | M521 | Test valve cores for pressure leakage                           |
- 

0057    Install pressure sub-assemblies

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- |   |      |  |
|---|------|--|
| 1 | M486 | Install lead tubing                                  |
| 2 | M487 | Install plastic tubing                               |
| 3 | M489 | Install pressure ells on pressurized cable systems   |
| 4 | M490 | Install pressure fittings on lead-sheathed cables    |
| 5 | M491 | Install pressure fittings on plastic-sheathed cables |
| 6 | M492 | Install pressure plugs using injection method        |
| 7 | M493 | Install pressure plugs using pour method             |
-



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0058    Take pressure readings

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- 1       M518    Take pressure readings using one direction method
  - 2       M519    Take pressure readings using two cylinder method
  - 3       M520    Take pressure readings using two direction method
- 

0059    Monitor cable airflow

---

- 1       M477    Determine directions of air flow
  - 2       M500    Install valves on CR boots
  - 3       M504    Locate pressure leaks using flow indicators
- 

0060    Splice cables

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- 1       H272    Install load coils, other than in missile cable splice cases
  - 2       H309    Terminate cables using soldering techniques
  - 3       K399    Bridge-splice pressure transducers into cables using mechanical connectors
  - 4       K415    Remove or replace flowmeter panel components
  - 5       K425    Splice meteorological cables
  - 6       K431    Splice-in load coils, other than in missile cable splice cases
  - 7       L441    Install pitch tape on sealed splices
  - 8       L455    Repair damage or defects in plastic cables using trouble sleeves
  - 9       L458    Repair splice cases, other than 13A- or 14A-series
  - 10      L463    Seal splices with epoxy-resin compounds
- 

0061    Install cables on MDFs

---

- 1       H246    Form cables on main distribution frames (MDFs) using distribution rings
  - 2       H265    Install distribution frameworks
  - 3       H284    Install stubbed central office protectors
  - 4       H290    Install tip cables on MDFs using multiple-leg method
  - 5       H291    Install tip cables on MDFs using single-leg method
  - 6       H301    Secure cables to MDFs using plastic cable ties
  - 7       H302    Stencil MDFs
  - 8       H313    Terminate skimmers on MDFs
  - 9       L443    Install vault closures
- 

0062    Maintain MDFs

---

- 1       H282    Install space saver protectors
  - 2       K403    Clean MDFs
  - 3       K405    Connect plastic-tip cables to space saver protectors
  - 4       K413    Remove or replace distribution frame protectors
  - 5       K414    Remove or replace distribution frames
- 

0063    Detect splice errors

---

- 1       J350    Detect cable faults using modular test sets
  - 2       J353    Detect splicer's errors using modular test sets
  - 3       J363    Identify conductors in working cables using amplifiers
-

0063	Detect splice errors (Continued)	
4	J368	Identify conductors using modular testing procedures
5	J370	Locate cable faults using exploring coils and amplifiers
6	J376	Locate splicer's errors using exploring coils and amplifier tone sets
0064	Prepare aerial cable installation	
1	G224	Secure tools or equipment at working height
2	H259	Install cable spacers or supports
3	H260	Install cables using rigging techniques
4	H264	Install depth markers
0065	Bury cables using plowing method	
1	H244	Bury cables using plow method
2	O581	Install buried fiber-optic cables using plowing method
0066	Work on aerial cable systems	
1	G177	Climb or work aloft on platforms
2	G178	Climb or work aloft on stepped poles
3	G179	Climb or work aloft on unstepped poles using climbing gaffs
4	G217	Raise or lower cable splicing platforms
5	G218	Raise or lower equipment on aerial systems
6	I318	Inspect climbing equipment, poles, or areas prior to ascending poles
7	J394	Perform suspension strand tests
0067	Install aerial cables	
1	H252	Install binding post chambers
2	H269	Install guy poles
3	H271	Install lightning protection on poles
4	H278	Install radio frequency (RF) connectors
5	H280	Install repeater amplifiers or impedance transformers
6	H281	Install sensor connectors
7	H283	Install steps on poles
8	H285	Install submarine splice cases
9	H286	Install surface-laid cables
10	H292	Install unstubbed central office protectors
11	H312	Terminate sensor cables
0068	Prepare pressurized cables for maint	
1	M483	Install alarm panels
2	M484	Install flowmeter panels
3	M510	Purge pressure tanks on refrigerated cable air dryers
4	M512	Reinforce pressurized lead sleeves with metal bands

0069 Operate pressure contactors		
1	M467	Adjust base cable pressure contactors
2	M478	Determine or detect locations of operated pressure contactors
3	M494	Install pressure contactors
4	M507	Perform operational checks of pressure contactors
5	M514	Remove or replace pressure contactors
0070 Install pressure status systems		
1	H251	Install base intrusion security system (BISS) cables
2	M488	Install pole-mounted air dryers
3	M495	Install pressure transducer-matrix systems
4	M496	Install pressure transducers
5	M499	Install refrigerant cable air dryers
0071 Inspect cable hardware		
1	H289	Install telephone repeaters
2	I316	Inspect cable cars
3	I319	Inspect coaxial cables or associated hardware
4	I334	Inspect meteorological cables and associated hardware
5	I335	Inspect navigational aids control cables and associated hardware
6	I336	Inspect sensor cables and associated hardware
7	I339	Inspect submarine cable installations
8	I346	Inspect video cables and associated hardware
0072 Splice fiber-optic ribboned cables		
1	O631	Splice fiber-optic ribboned cables using fusion method
2	O632	Splice fiber-optic ribboned cables using mechanical method
0073 Isolate malfunctions within equipment		
1	O599	Isolate malfunctions within analog fiber-optic end equipment
2	O600	Isolate malfunctions within digital fiber-optic end equipment
0074 Install/remove/replace fiber-optic assemblies		
1	O579	Install aerial fiber-optic cable splice housings
2	O580	Install aerial hardware for fiber-optic cables
3	O584	Install fiber-optic cables on aerial strands
4	O591	Install fiber-optic modems
5	O592	Install fiber-optic repeaters
6	O594	Install fiber-optic splitters or combiners
7	O595	Install fiber-optic star couplers
8	O597	Install protective or identification plastic tape using plowed method
9	O625	Remove or replace fiber-optic modem printed circuit boards
10	O626	Remove or replace fiber-optic modems

0075	Install, maintain T-span systems	
1	O596	Install fiber-optic T-span systems
2	O603	Isolate malfunctions within fiber-optic T-span systems
3	O629	Remove or replace fiber-optic T-spans
0076	Supervise cable personnel	
1	A13	Establish work methods or controls
2	B28	Conduct supervisory orientations of newly assigned personnel
3	B29	Conduct team briefings or debriefings, other than safety briefings
4	B39	Interpret policies, directives, or procedures for subordinates
5	B42	Supervise Communications Cable Systems Apprentices (AFSC 2E632)
6	B43	Supervise Communications Cable Systems Journeymen (AFSC 2E652)
7	C56	Evaluate personnel for promotion, demotion, reclassification, or special awards
0077	Schedule personnel	
1	A1	Assign personnel to duty positions
2	A2	Assign sponsors for newly assigned personnel
3	A23	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes
0078	Evaluate maint work	
1	B33	Direct maintenance or utilization of equipment
2	B38	Implement work methods or inspection procedures
3	C53	Evaluate maintenance or use of workspace, equipment, or supplies
4	C57	Evaluate procedures for storage, inventory, or inspection of tools or equipment
5	C62	Evaluate work schedules
6	C66	Inspect shop maintenance actions
0079	Coordinate safety/security programs	
1	A17	Plan safety or security programs
2	B36	Implement safety or security programs or procedures
3	C59	Evaluate safety or security programs
0080	Supervise cable craftsmen	
1	B32	Direct maintenance of administrative files
2	B44	Supervise Communications Cable Systems Craftsmen (AFSC 2E672)
3	C50	Evaluate administrative files or procedures
4	C52	Evaluate inspection report findings
5	C54	Evaluate or review staff studies, surveys, or special reports, such as maintenance reports
6	C60	Evaluate suggestions, requests, or complaints
7	C65	Indorse enlisted performance reports (EPRs)

0081	Perform executive duties	
1	A8	Draft budget requirements
2	A11	Establish organizational policies, such as operating instructions (OIs) or standard operating procedures (SOPs)
3	A15	Plan layout of shop facilities
4	A24	Write job or position descriptions
5	B26	Conduct general staff meetings
6	B31	Direct development or maintenance of status indicators, such as boards, graphs, or charts
7	C47	Analyze workload requirements
8	C51	Evaluate budget requirements
9	C63	Identify problem areas using deficiency or service reports
10	C70	Select personnel for specialized training
11	C73	Write staff studies, surveys, or special reports, other than training reports
0082	Coordinate, schedule installation	
1	A5	Coordinate rental of special purpose equipment with base procurement
2	A6	Coordinate transportation requirements with motor pool or transportation management offices (TMOs)
3	A18	Procure travel arrangements for installation or maintenance teams
4	A20	Schedule equipment or facility inspections
5	A21	Schedule installation of equipment
6	A22	Schedule or project equipment replacements
7	B25	Complete communications-computer systems acceptance actions
0083	Coordinate, conduct training	
1	D75	Assign on-the-job training (OJT) trainers
2	D79	Conduct training conferences or briefings
3	D80	Coordinate training requirements with base, command, or other technical agencies
4	D82	Determine training requirements
5	D87	Direct training programs
6	D90	Evaluate training methods, techniques, or programs
7	D91	Implement training programs
8	D92	Maintain study reference files
9	D94	Maintain training aids, charts, or graphs
10	D95	Monitor effectiveness of upgrade training, such as career knowledge, job proficiency, or qualification training
11	D96	Plan or schedule training
12	D97	Procure training aids, space, or equipment
0084	Supervise civilian, milt personnel	
1	B41	Supervise civilian personnel
2	B45	Supervise military personnel with AFSCs other than 2E6X2
3	C64	Indorse civilian performance appraisals
4	C71	Write civilian performance appraisals

0085	Maint publication, TO files	
1	F149	Maintain publication files or publication reading files, other than TO files
2	F151	Maintain TO files
0086	Prepare, turn-in excess project materials	
1	F152	Prepare excess project materials for turn-in
2	F163	Turn in excess project materials
0087	Maint, schedule test equipment	
1	B40	Review test equipment calibration schedules
2	F146	Maintain equipment calibration records
3	F161	Schedule test equipment or special purpose tools for calibration
0088	Monitor cable equipment	
1	C69	Review equipment authorization lists
2	F131	Initiate maintenance data collection records using core automated maintenance system (CAMS)
3	F134	Initiate requests for shipment of tools or equipment
4	F154	Complete documents for transfer or accountability of military real property
5	F155	Process damaged tools for replacement
0089	Develop, conduct training	
1	D74	Administer tests
2	D76	Assign resident course instructors
3	D78	Conduct resident course classroom training
4	D83	Develop course curricula, plans of instruction (POIs), or specialty training standards (STSs)
5	D84	Develop new equipment training programs
6	D85	Develop performance tests
7	D86	Develop phase tests for evaluating upgrade training progress
8	D88	Establish study reference files
9	D93	Maintain training areas or equipment
10	D98	Score tests
11	D99	Write job qualification standards (JQSs)
12	D100	Write test questions
13	D101	Write training reports
0090	Complete, maint cable documentation	
1	E102	Complete daily documentation of job logs, summaries, project drawings, or man-hour utilization data
2	E103	Conduct and document final project acceptance inspections w/quality assurance evaluators or base quality control inspectors
3	F125	Conduct reviews of engineered project directives
4	F127	Coordinate follow-on maintenance or support requirements with using agencies
5	F130	Initiate engineering change request/authorizations (ECR/As)
6	F136	Initiate travel order requests

0091	Coordinate logistical support	
1	E110	Coordinate final quality control verification tests with receiving installations
2	E111	Coordinate logistical support for work projects with customers
3	E112	Coordinate or procure host-base support with appropriate personnel, such as logistic support
4	E113	Coordinate project or special project requirements with engineering activities
0092	Plan, coordinate deployment	
1	E115	Document recommended permanent repair actions
2	E116	Implement inspection action plans
3	E117	Plan or implement deployment actions, such as obtaining team support, billeting, transportation, or messing facilities
4	E118	Plan or implement post-deployment actions
5	E119	Review host-base customer data requests
6	F124	Complete communication acceptance actions, such as commissioning and removal certificates
7	F133	Initiate requests for engineering assistance
0093	Conduct, document mobile depot maint actions	
1	E104	Conduct and document pre-mobile depot maintenance (pre-MDM), MDM, or post-MDM inspections
2	E105	Conduct and document pre-MDM, MDM, or post-MDM testings
3	E106	Conduct and document preshakedown or shakedown project implementation corrective actions
4	E107	Conduct and document preshakedown or shakedown project implementation inspections
5	E108	Conduct and document preshakedown or shakedown project implementation testings
6	E109	Conduct and document special training for team chief nominees
0094	Administrate cable operations	
1	F123	Certify entries on maintenance forms
2	F128	Implement time compliance technical order (TCTO) instructions
3	F132	Initiate or complete deficiency, service, or status reports
4	F135	Initiate technical order (TO) improvement reports
5	F145	Maintain classified information
6	F147	Maintain maintenance plans for workcenters
7	F156	Complete initial issue or bypass letters for repair cycle turn-ins
8	F160	Review TCTO work records
0095	Maint HICS cables	
1	N524	Bridge-splice PTs
2	N526	Excavate HICS cables
3	N530	Initiate HICS manual scan reports
4	N540	Interpret system status reports from pressure monitoring receiver-transmitters (PMRTs)
5	N558	Remove or replace inner or outer ATI splice cases
6	N565	Splice HICS cables

0096	Maint HICS pressure equipment	
1	N522	Adjust HICS pressure transmitters (PTs)
2	N535	Install HICS demi-valve assemblies (DVAs)
3	N539	Install temporary pressure sources
4	N544	Repair HICS grounding or sealing devices
5	N556	Remove or replace HICS DVAs
6	N566	Test ESAs
0097	Install, maint HICS pressure transmitters	
1	N525	Determine locations of alarmed PTs
2	N534	Install HICS cable PTs
3	N546	Perform operational checks on PMRTs using pressure monitoring test sets
4	N547	Perform operational checks on PTs using pressure monitoring test sets
5	N555	Remove or replace HICS cable PTs
6	N563	Seal HICS cables
7	N564	Set addresses on PTs
0098	Fabricate, install link cables	
1	N528	Fabricate link cables
2	N537	Install link cable sections
0099	Fabricate, install ESAs	
1	N527	Fabricate electrical surge arresters (ESAs) stub cables
2	N529	Fabricate support planks
3	N550	Perform penetration or backout procedures of Peacekeeper (MX) missile LFs
4	N551	Perform penetration or backout procedures of MX missile LFSBs
5	N552	Perform underpressure alarm self-tests
6	N559	Remove or replace load coils or buildout capacitors in missile cable splice cases
7	N560	Remove or replace Minuteman ESA stub cables
0100	Tasks not referenced	
1	A16	Plan or schedule work assignments or priorities
2	B27	Conduct safety briefings
3	C46	Analyze recurring troubles on equipment identified by deficiency or service reports
4	C48	Complete USAF Graduate Evaluation Program forms or questionnaires
5	C61	Evaluate unit emergency or disaster plans
6	C67	Investigate accidents or incidents
7	C68	Perform aerial fly-over inspections or surveys
8	E114	Develop inspection action plan listings
9	G166	Perform first aid procedures on injured members
10	G181	Complete certifications to climb or work aloft
11	G182	Construct splicing jigs
12	G184	Coordinate removal or disposition of combustible fuels found in manholes with appropriate agencies
13	G186	Coordinate sheath openings or work on pressurized systems with appropriate agencies
14	G191	Erect or remove aerial splicing tents
15	G231	Set up or remove ground tents



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0100    Tasks not referenced (Continued)

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16	G233	Stake out pole lines for aerial cable systems
17	H250	Install anchors
18	H256	Install bypass valves
19	H287	Install T-carriers
20	H293	Install video terminal assemblies or panels
21	H295	Perform transit procedures
22	J348	Break down high-resistance faults
23	J390	Perform and record preinstallation electrical tests
24	J395	Tag conductors using tag boards
25	K426	Splice radio ground (RG) coaxial cables
26	M480	Eliminate moisture in cables using desiccant method
27	M481	Eliminate moisture in cables using heated dry-air method
28	M482	Eliminate moisture in cables using purging method
29	N531	Inspect ESA rooms
30	N532	Inspect HICS grounding or sealing devices
31	N533	Install conduit sealing devices
32	N538	Install support planks
33	N543	Maintain stored cables in HICS cable yards
34	N548	Perform penetration or backout procedures of Minuteman launch facilities (LFs)
35	N549	Perform penetration or backout procedures of Minuteman launch facility support buildings (LFSBs)
36	N554	Remove or replace ESAs
37	O598	Install protective or identification plastic tape using trench method
38	O612	Prepare pitched tar-coated armor shielded optical cables for splicing
39	O623	Remove or replace fiber-optic channel banks
40	O630	Splice fiber-optic ribboned cables using array method